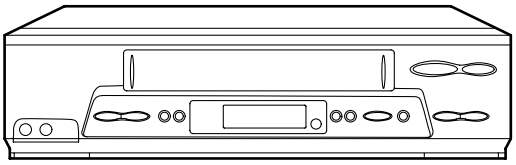
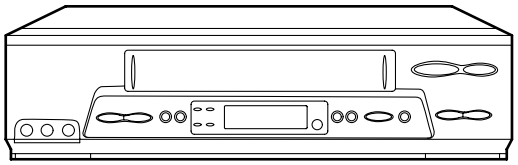
SHARP SERVICE MANUAL



VC-A565U



VC-H965U

VHS VIDEO CASSETTE RECORDER

MODELS VC-A565U VC-H965U

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified be used.

CONTENTS

SHARP CORPORATION

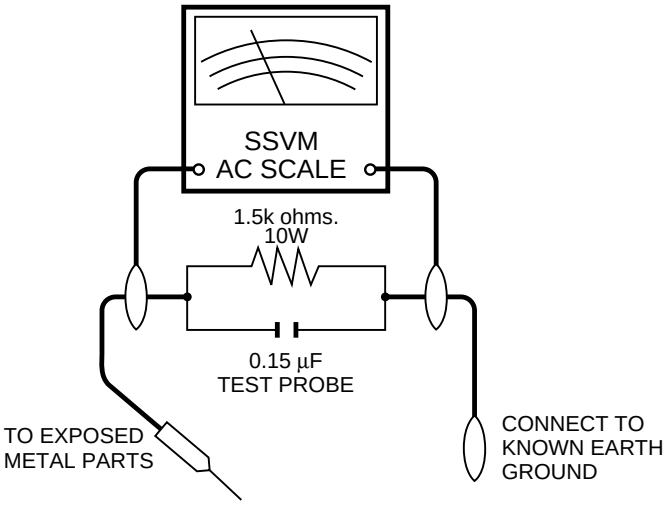
IMPORTANT SERVICE NOTES

BEFORE RETURNING THE VIDEO CASSETTE RECORDER

Before returning the video cassette recorder to the user, perform the following safety checks.

1. Inspect all lead dress to make certain that leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the video cassette recorder.
2. Inspect all protective devices such as non-metallic control knobs, insulation materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor/capacitor networks, mechanical insulators etc.
3. To be sure that no shock hazard exists, check for current in the following manner.

- Plug the AC line cord directly into a 120 volt AC outlet (Do not use an isolation transformer for this test).
- Using two clip leads, connect a 1.5k ohm, 10 watt resistor paralleled by a 0.15μF capacitor in series with all exposed metal cabinet parts and a known earth ground, such as a water pipe or conduit.
- Use an SSVM or VOM with 1000 ohm per volt, or higher, sensitivity or measure the AC voltage drop across the resistor (See Diagram).
- Move the resistor connection to earth exposed metal part having a return path to the chassis (antenna, metal cabinet, screw heads, knobs and control shafts, etc.) and measure the AC voltage drop across the resistor. Reverse the AC plug on the set and repeat AC voltage measurements for each exposed part. Any reading of 0.45V rms (this corresponds to 0.3mA rms AC.) or more is excessive and indicates a potential shock hazard which must be corrected before returning the video cassette recorder to the owner.



WARNING : TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK. DO NOT REMOVE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol warns the user of uninsulated voltage within the unit that can cause dangerous electric shocks.

This symbol alerts the user that there are important operating and maintenance instructions in the literature accompanying this unit.

CAUTION:

3.0A 125V

This symbol mark means fast operating fuse.
For continued protection against risk of fire, replace only with same type fuse F901 (3.0A, 125V).

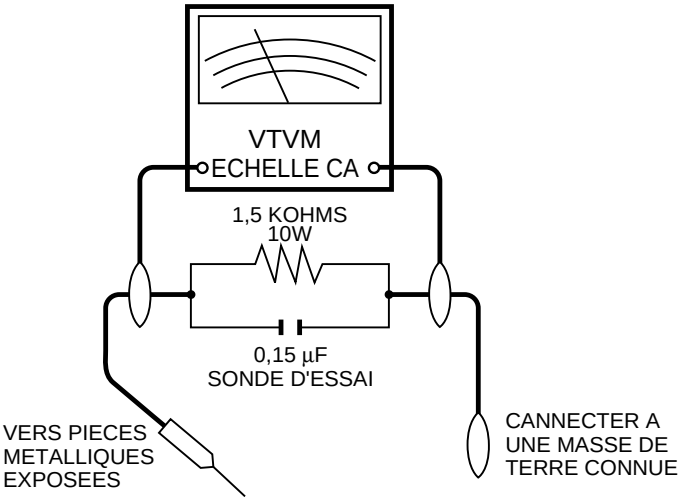
NOTES DE SERVICE IMPORTANTES

AVANT DE RENDRE LE MAGNETOSCOPE

Avant de rendre le magnétoscope à l'utilisateur, effectuer les vérifications de sécurité suivantes.

1. Vérifier toutes les gaines de fil pour être sûr que les fils ne sont pas pincés ou que le matériel n'est pas coincé entre le châssis et les autres pièces métalliques dans le magnétoscope.
2. Vérifier tous les dispositifs de protection tels que les boutons de commande non métalliques, les matériaux d'isolement, le dos du coffret, les couvercles de compartiment et ajustement ou les boucliers, les réseaux de résistance / condensateur d'isolement, les isolateurs mécaniques, etc.
3. Pour être sûr qu'il n'y a aucun risque de choc électrique, vérifier le courant de fuite de la maniére suivante.

- Brancher le cordon d'alimentation secteur directement dans une prise de courant de 120 volts. (Ne pas utiliser de transformateur d'isolement pour cet essai).
- Utiliser deux fils à pinces et connecter une résistance de 10 watts 1,5 kohm en parallèle avec un condensateur de 0,15 µF en série avec des pièces du coffret métallique exposées et une masse de terre connue telle qu'un tuyau ou un conduit d'eau.
- Utiliser un VTVM ou VOM avec une sensibilité de 1000 ohms par volt ou plus ou mesurer la chute de tension CA entre la résistance (voir diagramme).
- Déposer la connexion de la résistance à toutes les pièces métalliques exposées ayant un parcours de retour au châssis (connexions d'antenne, coffret métallique, têtes de vis, boutons et arbres de commande, etc.) et mesurer la chute de tension CA entre la résistance. Inverser la fiche CA (une fiche intermédiaire non polarisée doit être utilisée à seule fin de faire ces vérifications.) sur l'appareil et répéter les mesures de tension CA pour chaque piéce métallique exposée. Toute lecture de 0,45 Vrms (ceci correspond à 0,3 mArms CA) ou plus est excessive et signale un danger de choc qui doit être corrigé avant de rendre le magnétoscope à son utilisateur.



ATTENTION: POUR REDUIRE LES RESQUES D'INCENDIE OU DE CHOC ELECTRIQUE, NE PAS EXPOSER CET APPAREIL A LA PLUIE OU A L'HUMIDITE.

ATTENTION
RISQUE DE CHOC ELECTRIQUE
NE PAS OUVRIR

ATTENTION: AFIN DE REDUIRE LES RISQUES DE CHOC ELECTRIQUE, NE PAS RETIRER LE COUVERCLE, AUCUN ORGANE INTERNE NE PEUT ETRE REPARE PAR L'UTILISATEUR. CONFIER L'APPAREIL A UN DEPANNEUR QUALIFIE.

Ce symbole signale à l'utilisateur la présence d'une tension non isolée à l'intérieur de l'appareil qui peut être la cause de secousses électriques dangereuses.

Ce symbole avertit l'utilisateur que des instructions importantes relatives à l'utilisation et àl'entretien se trouvent dans le manuel accompagnant l'appareil.

PRECAUTION:

3,0A 125V

Cette marque indique le fusible à action in stantansée. Pour la protection continue contre le risque d'incendie, ne remplacer que par le fusible type F901 (3,0A, 125V).

PRECAUTIONS IN PART REPLACEMENT

When servicing the unit with power on, be careful to the section marked white all over.
This is the primary power circuit which is live.

When checking the soldering side in the tape travel mode, make sure first that the tape has been loaded and then turn over the PWB with due care to the primary power circuit.
Make readjustment, if needed after replacement of part, with the mechanism and its PWB in position in the main frame.

(1) Start and end sensors: Q701 and Q702

Insert the sensor's projection deep into the upper hole of the holder. Referring to the PWB, fix the sensors tight enough.

(2) Photocoupler: IC901

Refer to the symbol on the PWB and the anode marking of the part.

(3) Cam switches A and B: S704: QSW-RA001WJZZ.

Adjust the notch of the part to the white marker of the symbol on the PWB. Do not allow any looseness.

(4) Take-up and supply sensors: D707 and D706.

Be careful not to confuse the setting direction of the parts in reference to the symbols on the PWB. Do not allow any looseness.

1. GENERAL INFORMATION

1-1 FEATURES

Only for VC-H965U

- **VHS Hi-Fi Stereo Sound**
- **Built-in MTS (Multi-channel TV Sound) Decoder**
- **Built-in Front AV Jacks**

Common Features

- **EZ Set Up**
- **S-VHS Quasi Playback**
- **Double-Azimuth 4-Heads**
- **19μ Clear Picture System (in EP mode)**
- **HQ System for Better Resolution and Color Reproduction**
- **Multi-Language (English/Spanish/French) OSD (On Screen Display) with Menu Screen Guidance**
- **181-channel PLL Quartz Synthesized Random Access Tuner with Automatic Channel Setting**
- **Quick Start with Full Loading Mechanism**
- **1-Year, 8 Event Programmable Timer**
- **Simple Recording Timer**
- **Universal Remote Control**
- **Sharp Super Picture**
- **5 sec. Timer Backup**
- **Field-Still/Variable Slow/Frame Advance**
- **Real-Time Counter (On Screen Display)**
- **Automatic Daylight Saving-Time (D.S.T.) Adjustment**
- **Blue Screen Noise Elimination**
- **Auto Tracking Control System**
- **Digital Program Search System (DPSS)**
- **Skip Search**
- **Instant Replay**
- **Auto Zero Back**
- **Recorded Section Auto Repeat**
- **Full Automatic Playback**
- **Tamper Proof**
- **Up to 8 Hours of Recording and Playback (with T-160 cassette)**

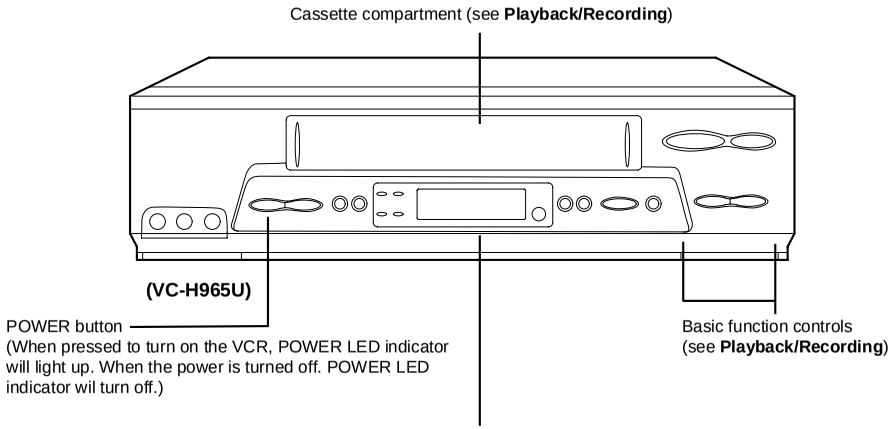
1-2 SPECIFICATIONS

Format:	VHS NTSC Standard
Video Recording System:	Rotary Two-Head Helical Scan System
Number of Video Heads:	4
Video Signal Standard:	NTSC Color System
Audio Recording System:	1 Stationary Head for Linear Audio 2 Rotary Heads for Hi-Fi stereo (Only for Hi-Fi models)
Tape Width:	12.7 mm (1/2 inch)
Tape Speed:	(SP) 33.35 mm/sec. (1.31 i.p.s.) (LP) 16.67 mm/sec. (0.66 i.p.s.) (playback only) (EP) 11.12 mm/sec. (0.44 i.p.s.)
Maximum Recording Time:	(SP) 160 min. (T-160) (EP) 480 min. (T-160)
Channel Coverage:	VHF 2-13 UHF 14-69 CATV 1-125
Antenna Input:	75 Ohm
Video Input:	0.5 to 2.0 Vp-p, 75 Ohm unbalanced
Video Output:	1.0 Vp-p, 75 Ohm unbalanced
Audio Input:	–8 dBs, 47 kOhm unbalanced (0 dBs = 0.775 Vrms)
Audio Output:	–8 dBs, 1 kOhm unbalanced (0 dBs = 0.775 Vrms)
Hi-Fi Audio (Only for Hi-Fi models):	
Dynamic Range:	90 dB
Frequency Response:	20 Hz-20 kHz
Memory Backup:	5 sec.
Operating Temperature:	5°C to 40°C (41°F to 104°F)
Storage temperature:	–20°C to 60°C (–4°F to 140°F)
Power Source:	120 V AC, 60 Hz
Power Consumption:	14 W
Dimensions (approx.):	360 (W) x 92.0 (H) x 232 (D) mm (14-3/16" x 3-10/16" x 9-9/64")
Weight (approx.):	2.3 kg (5.1 lbs)
Accessories included:	75 ohm coaxial cable, Operation manual, Infrared remote control, Battery (2 pcs.)

Note: Specifications are subject to change without notice.

Major Components of Your VCR

[Front]



Multi-Function Display (explained throughout the operation instructions)

When the power is on, each time **DISPLAY** is pressed, the Multi-Function display changes as follows:

❶ Channel setting —► ❷ Tape counter —► ❸ Clock

NOTE

- Tape counter is displayed when the VCR enters the operation mode.
- When the power is turned off, the clock is displayed and the LCD backlight will light off.

Symbol	Function Status	Symbol	Function Status
(Rotate slowly)	Play	(Rotate rapidly)	Fast forward, Video Search Forward
(Rotate slowly)	Record	(Rotate rapidly)	Rewind, Video Search Reverse
	Stop		Cassette-in
	Slow, Still, Frame Advance		Rec Pause
	Tamper Proof Active	VCR	Unit in VCR mode

NOTE

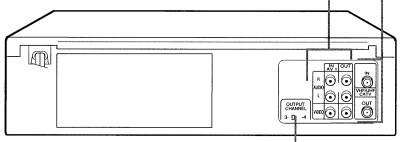
- The display will return to channel setting mode when **STOP** button is pressed during operation mode.

[Rear]

VC-H965U

Connection terminals (see **Connecting the VCR** and **Cable TV Connections**)

Connection terminals (see **Tape Dubbing**)

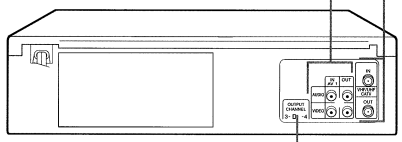


3 ↔ 4 OUTPUT CHANNEL selector
(see **Setting the 3 ↔ 4 Output Channel Selector**)

VC-H565U

Connection terminals (see **Connecting the VCR** and **Cable TV Connections**)

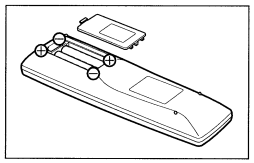
Connection terminals (see **Tape Dubbing**)



3 ↔ 4 OUTPUT CHANNEL selector
(see **Setting the 3 ↔ 4 Output Channel Selector**)

Remote Control

Inserting the Batteries



Make sure that the batteries have been properly installed first. Fit two batteries type "AA". If the remote control stops working, fit new batteries.

Ensure the batteries are fitted correctly, matching the polarities (⊕/⊖) indicated in the remote control.

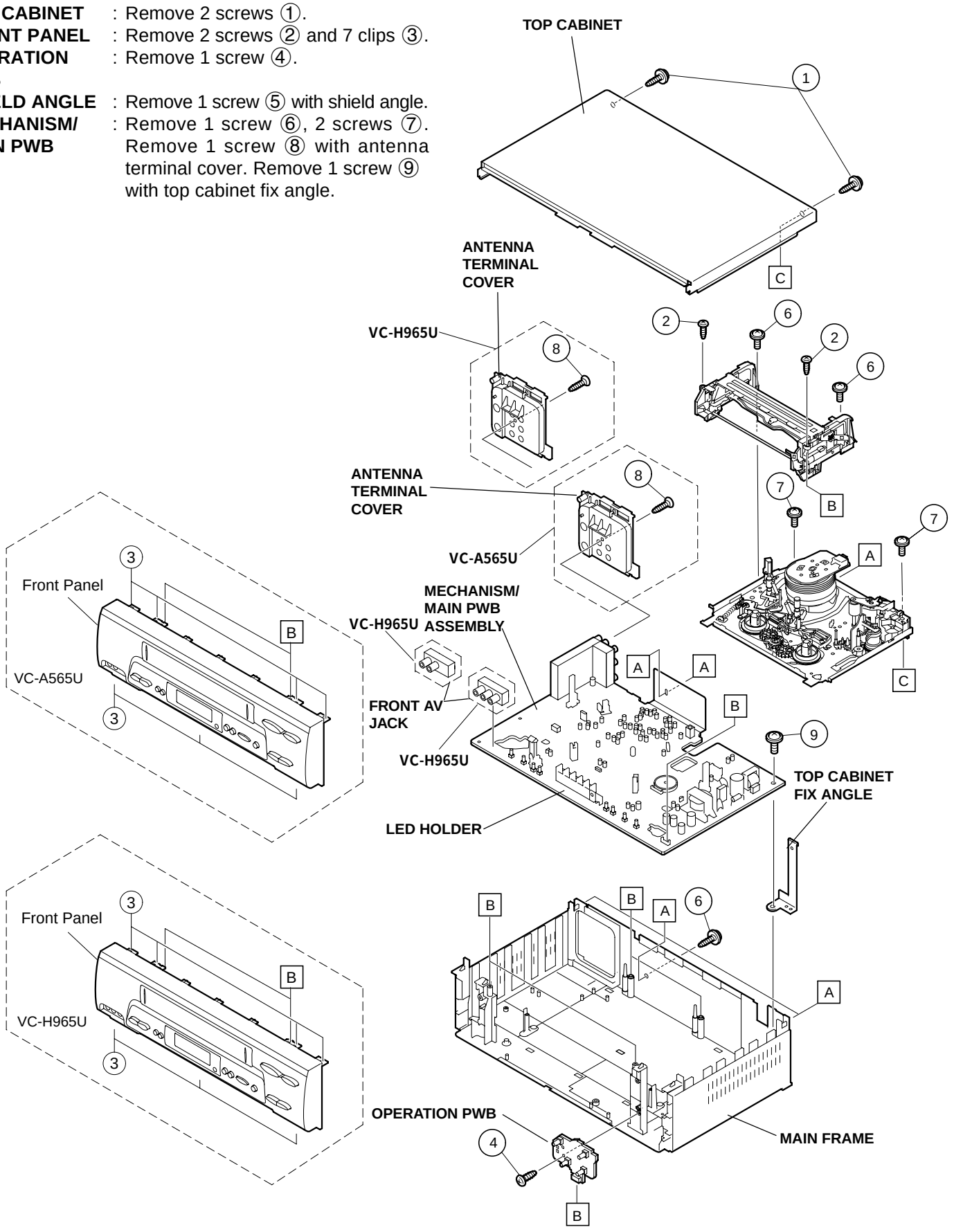
NOTE

- **After changing the batteries in the remote control, the code settings for the TV, cable box and Digital Satellite Receiver must be re-entered.**
- Do not subject the remote control to shock, water or excessive humidity.
- The remote control may not function if the VCR sensor is in direct sunlight or any other strong light.
- Incorrect use of batteries may cause them to leak or burst. Read the battery warnings and use the batteries properly.
- Do not mix old and new batteries, or mix brands in use.
- Remove the batteries if the remote control will not be operated for an extended period of time.
- If the remote control does not function properly when new batteries are installed, remove the batteries and keep pressing any button for 10 seconds before re-installing them.

2. DISASSEMBLY AND REASSEMBLY

2-1 DISASSEMBLY OF MAJOR BLOCKS

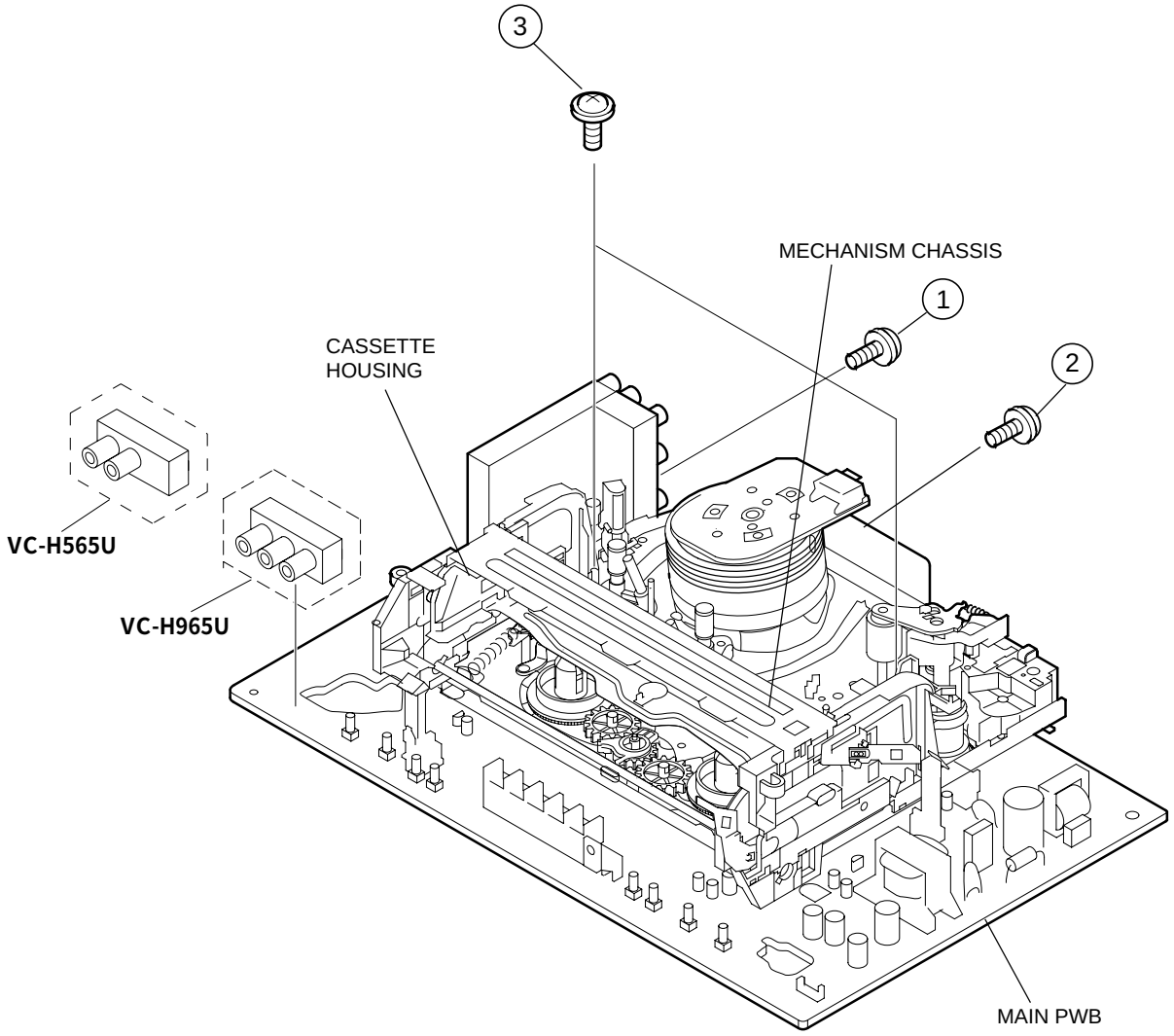
TOP CABINET	: Remove 2 screws ①.
FRONT PANEL	: Remove 2 screws ② and 7 clips ③.
OPERATION PWB	: Remove 1 screw ④.
SHIELD ANGLE	: Remove 1 screw ⑤ with shield angle.
MECHANISM/ MAIN PWB	: Remove 1 screw ⑥, 2 screws ⑦. Remove 1 screw ⑧ with antenna terminal cover. Remove 1 screw ⑨ with top cabinet fix angle.



2-2 DISASSEMBLING THE MECHANISM/MAIN PWB ASSEMBLY

1. When removing the mechanism from the main PWB, remove the antenna cover 1 screw ①, and remove the antenna terminal cover.
   Remove the screw ② which connecting the PWB and the mechanism.
   Take out vertically the mechanism so that it does not damage the adjacent parts.

2. Removing the mechanism and cassette housing.
   Remove 2 screws ③ fixing the cassette housing to the mechanism, and remove the cassette housing.



2-3 CARES WHEN REASSEMBLING

INSTALLING THE CASSETTE HOUSING

When the cassette housing is installed on the mechanism, the initial setting is essential condition.

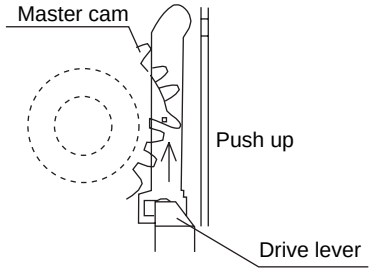
There are two initial setting methods, namely electrical and mechanical.

1. Electrical initial setting

So as to perform initial setting of mechanism execute the Step 1 of Installation of cassette housing. After ascertaining the return to the initial setting position install the cassette housing. (Conditions: When mechanism and PWB have been installed)

2. Mechanical initial setting

After ascertaining the return to the initial set position install the cassette housing in the specified position. (This method is applied only for the mechanism.)

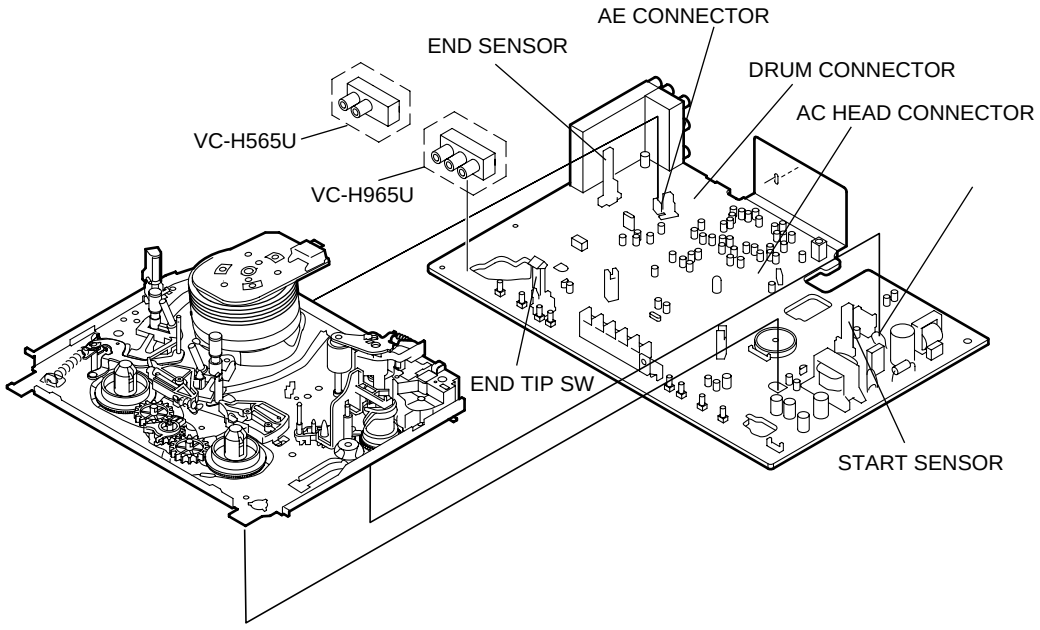


INSTALLING THE MECHANISM ON PWB

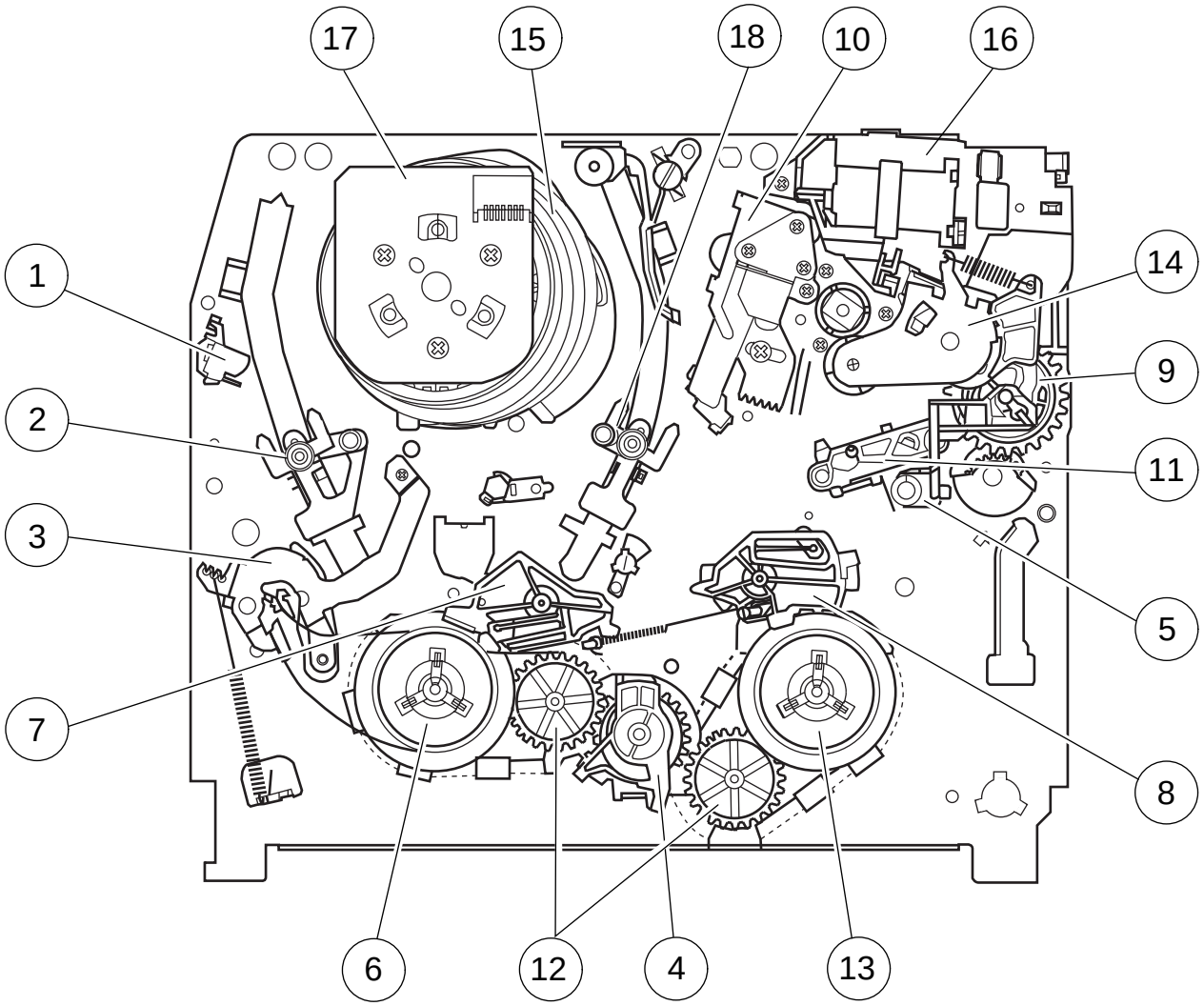
Lower vertically the mechanism, paying attention to the mechanism edge, and install the mechanism with due care so that the parts are not damaged. So as to fix the mechanism to the main PWB install two housings. (Fit the antenna cover to one of them.

PARTS WHICH NEED PARTICULAR CARE

When installing the mechanism chassis on the PWB unit, take care so as to prevent deformation due to contact of mechanism chassis with REC TIP SW.

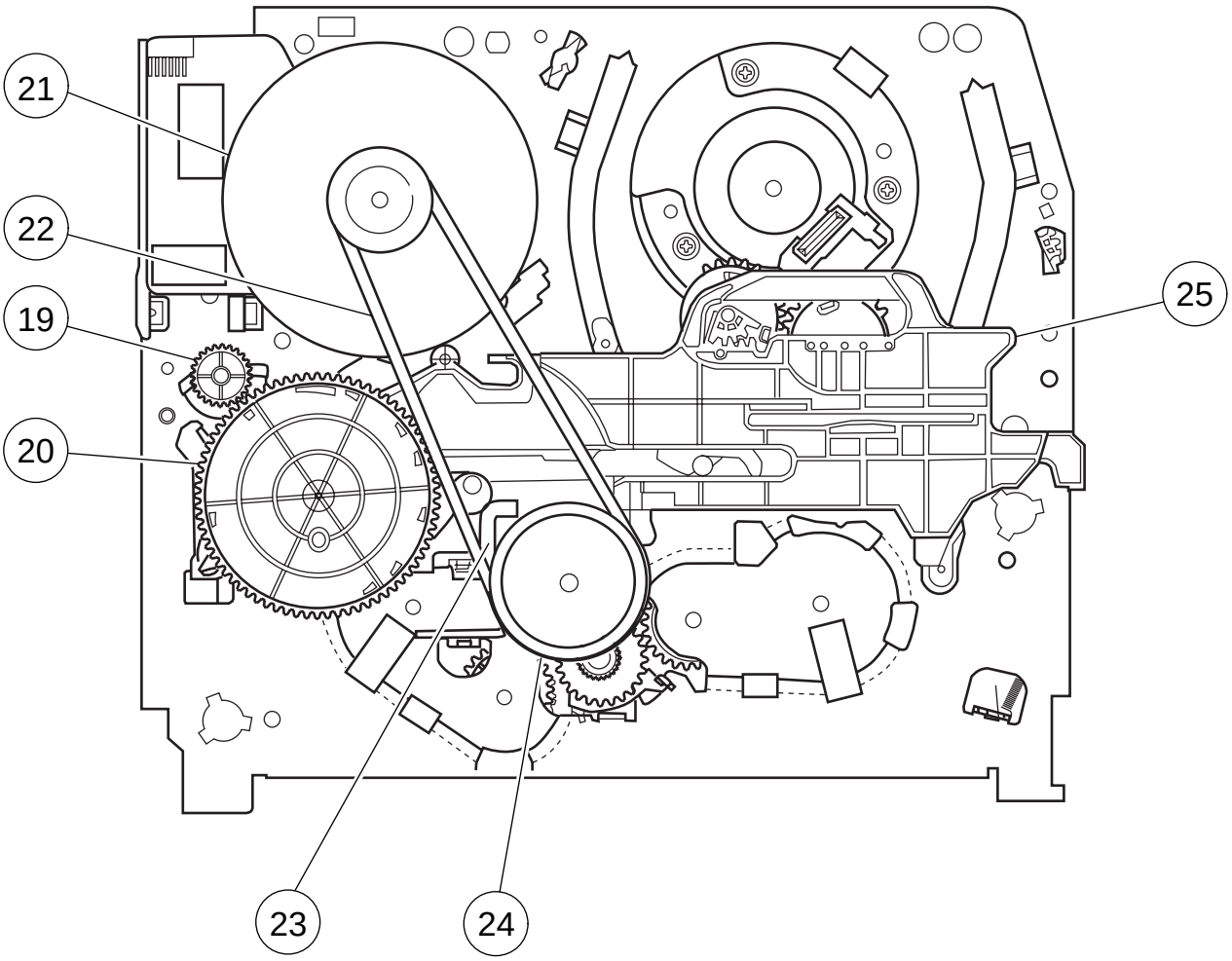


3. FUNCTION OF MAJOR MECHANICAL PARTS (TOP VIEW)



No.	Function	No.	Function
1	Full erase head	10	A/C head ass'y
2	Supply pole base ass'y	11	Reverse guide lever ass'y
3	Tension arm	12	Reel relay gear
4	Idler wheel ass'y	13	Take-up reel disk
5	Open guide	14	Pinch roller lever ass'y
6	Supply reel disk	15	Drum ass'y
7	Supply main brake	16	Loading motor block
8	Take-up main brake	17	Drum driver motor
9	Pinch drive cam	18	Take-up pole base ass'y

FUNCTION OF MAJOR MECHANICAL PARTS (BOTTOM VIEW)



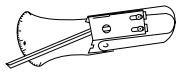
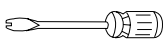
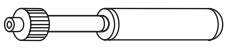
No.	Function	No.	Function
19	Syncro Gear	23	Clutch lever
20	Master cam	24	Limiter pulley ass'y
21	Capstan D.D. motor	25	Shifter
22	Reel belt		

4. ADJUSTMENT, REPLACEMENT AND ASSEMBLY OF MECHANICAL UNITS

The explanation given below relates to the on-site general service (field service) but it does not relates to the adjustment and replacement which need high-grade equipment, jigs and skill. For example, the drum assembling, replacement and adjustment service must be performed by the person who have finished the technical courses.

4-1 MECHANISM CONFIRMATION ADJUSTMENT JIG

So as to perform completely the mechanism adjustment prepare the following special jigs. So as to maintain the initial performance of the machine the maintenance and check are necessary. Utmost care must be taken so that the tape is not damaged. If adjustment needs any jig, be sure to use the required jig.

No.	Jig Item	Part No.	Code	Configuration	Remarks
1.	Torque Cassette Meter	JiGVHT-063	CZ		This cassette torque meter is used for checking and adjusting the torque of take-up for measuring tape back tension.
2.	Torque Gauge	JiGTG0090	CM		These Jigs are used for checking and adjusting the torque of take-up and supply reel disks.
		JiGTG1200	CN		
3.	Torque Gauge Head	JiGTH0006	AW		
4.	Torque Driver	JiGTD1200	CB		When fixing any part to the threaded hole using resin with screw, use the jig. (Specified torque 5 kg)
5.	Master Plane Jig and Reel Disk Height Adjusting Jig	JiGRH0002	BR		These Jigs are used for checking and adjusting the reel disk height.
		JiGMP0001	BY		
6.	Tension Gauge	JiGSG2000	BS		There are two gauges used for the tension measurements, 300 g and 2.0 kg.
		JiGSG0300	BF		
7.	Pinch pressing force measuring jig	JiGADP003	BK		This Jig is used with the tension gauge. Rotary transformer clearance adjusting jig.
8.	Alignment Tape				These tapes are especially used for electrical fine adjustment.
		VROATSV	CD		525 Monoscope: Video 7k, Audio —, HiFi Audio 58µm NTSC Color Bar: Video 1k, Audio —, HiFi Audio 58µm
		VROEFZCS OR VROEFZHS	BG		Black Level (only SYNC) signal: Video 1k, Audio —, HiFi Audio 19µm
			BH		Video 2.3k, Audio —, HiFi Audio 19µm
9.	Guide roller height adjustment driver	JiGDRiVERH-4	AP		This screwdriver is used for adjusting the guide roller height.
10.	X value adjustment gear driver	JiGDRiVER-6	BM		For X value adjustment
11.	Tension Pole Adjustment Driver				This Jig is used for adjustment of tension pole.

4-2 MAINTENANCE CHECK ITEMS AND EXECUTION TIME

Perform the maintenance with the regular intervals as follows so as to maintain the quality of machine.

Maintained / Parts	500 hrs.	1000 hrs.	1500 hrs.	2000 hrs.	Possible symptom encountered	Remarks
Guide roller ass'y	□	□	□	□	Lateral noises Head occasionally blocked	Abnormal rotation or significant vibration requires replacement.
Sup guide shaft	□	□	□	□		Clean tape contact part with the specified cleaning liquid.
Reverse guide	□	□	□	□		
Slant pole on pole base	□	□	□	□		
Full erase head	□	□	□	○	Colour and beating	Clean tape contact area with the specified cleaning liquid.
A/C head	□	□	□	○	Small sound or sound distortion	
Upper and lower drum ass'y	□	○□	○□	○□	Poor S/N ratio, no colour Poor flatness of the envelope with alignment tape	
Capstan D.D. motor	□	□	□	□	No tape running, uneven colour	
Pinch roller	□	□	□	□	No tape running, tape slack	Clean rubber and rubber contact area with the specified cleaning liquid.
Reel belt		□		○	No tape running, tape slack, no fast forward/ rewind motion	
Tension band ass'y				○	Screen swaying	
Loading motor				○	Cassette not loaded or unloaded	
Idler ass'y				○	No tape running, tape slack	
Limiter pulley		□△		□○		
Supply/take-up main brake levers				○	Tape slack	

NOTE ○ : Part replacement. □ : Cleaning △ : Apply grease
<Specified> Cleaning liquid Industrial ethyl alcohol

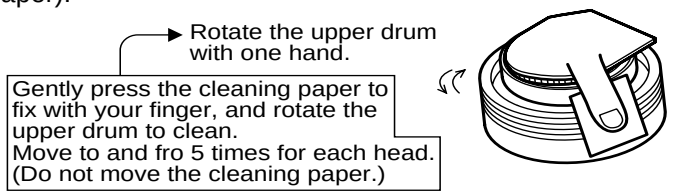
* This mechanism does not need electric adjustment with variable resistor. Check parts. If any deviation is found, clean or replace parts.

Video head cleaning procedure

1. Apply one drop of cleaning liquid to the cleaning paper with the baby oiler.
2. Gently press the cleaning paper against the video head to fix your finger, and move the upper drum so that each head is passed to and fro 5 times (do not move the cleaning paper).
3. Wipe with the dry cleaning paper.

Notes :

- Use the commercially available ethanol of Class 1 as cleaning liquid.
- Since the video head may be damaged, do not move up and down the cleaning paper.
- Whenever the video head is cleaned, replace the cleaning paper.
- Do not apply this procedure for the parts other than the video head.



Parts Code	Description	Code
ZPAPRA56-001E	Cleaning Paper	AW
ZOiLR-02-24TE	Babe Oiler (Spoit)	AH

4-3 REMOVING AND INSTALLING THE CASSETTE HOUSING

• Removal

1. In the cassette removing mode, remove the cassette.
2. Unplug the power cord.
3. Remove in the following numerical order.
   a) Remove two screws ①.
   b) Pull the drive lever slide and pull up the cassette housing control.

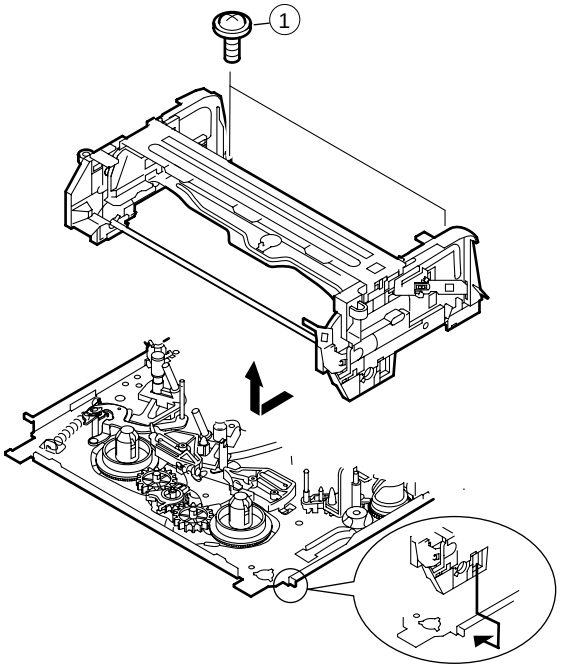


Figure 4-1.

• Reassembly

1. Before installing the cassette housing control, short-circuit between TP803 and TP802 provided at main PWB, press the eject button. The master cam turns and stops when the positioning mark appears. Fit the drive lever to master cam through main chassis, and push up the drive lever.

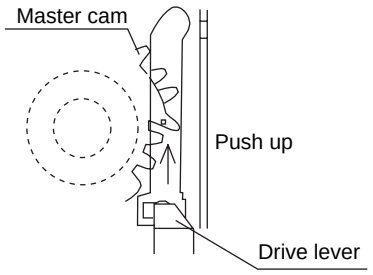


Figure 4-2.

2. Install in the reverse order of removal.

Notes:

1. In the case when you use the magnet screw driver, never approach the magnet driver to the A/C head, FE head, and drum.
2. When installing or removing, take care so that the cassette housing control and tool do not contact the guide pin or drum.
3. After installing the cassette housing control once perform cassette loading operation.

4-4 TO RUN A TAPE WITHOUT THE CASSETTE HOUSING CONTROL ASSEMBLY

1. Remove the full-surface panel.
2. Short-circuit between TP803 and TP802.
3. Plug in the power cord.
4. Turn off the power switch.
   (The pole bases move into U.L.position.)
5. Open the lid of a cassette tape by hand.
6. Hold the lid with two pieces of vinyl tape.
7. Set the cassette tape in the mechanism chassis.
8. Stabilize the cassette tape with a weight (500g) to prevent floating.
9. Turn on the power switch.
10. Perform running test.

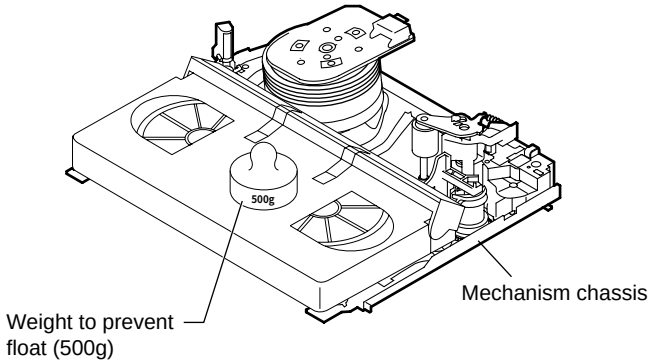


Figure 4-3.

Note:

The weight should not be more than 500g.

To take out the cassette tape.

1. Turn off the power switch.
2. Take out the cassette tape.

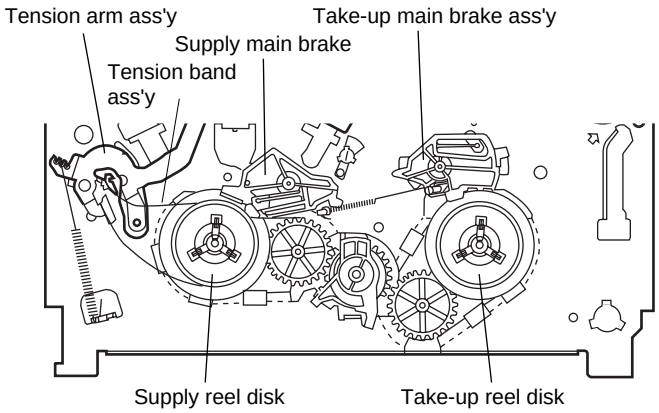
4-5 REEL DISK REPLACEMENT AND HEIGHT CHECK

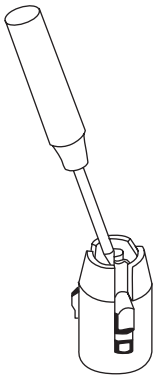
- **Removal**

1. Remove the cassette housing control assembly.
2. Remove the Supply/Take-up main brake ass'y.
3. Pull the tension band out of the tension arm ass'y.
4. Remove the reel disk.

Note:

Take care so that the tension band ass'y and main brake ass'y are not deformed.





- **Reassembly (Supply reel disk)**

1. Clean the reel disk shaft and apply grease (SC-141) to it.
2. Match the phases of reel disk and reel relay gear, and set the new reel disk.
3. After checking the reel disk height, wind the tension band ass'y around the reel disk, and hook to tension arm ass'y.
4. Assemble the Supply main brake ass'y.

Notes:

1. When installing the reel disk, take due care so that the tension band ass'y is not deformed and grease does no adhere.
2. Do not damage the Supply main brake ass'y. Be careful so that grease does not adhere to the brake surface.

- **Reassembly (Take-up reel disk)**

1. Clean the reel disk shaft and apply grease (SC-141) to it.
2. Align the phase of the reel disk to that of the reel relay gear and to install a new take-up reel disk onto the shaft.
3. Check the reel disk height and reassemble the take-up main brake ass'y.

Note:

1. Take care so that the Take-up main brake ass'y is not damaged. Take care so that grease does not adhere the brake surface.
2. After reassembly, check the video search rewind back tension (see **4-10**), and check the brake torque (see **4-14**).

- **Height checking and adjustment**

Note:

1. Set the master plane with due care so that it does not contact the drum.
2. When putting the master plane, shift the reverse guide a little in the loading direction. Care must be taken since excessive shift results in damage.

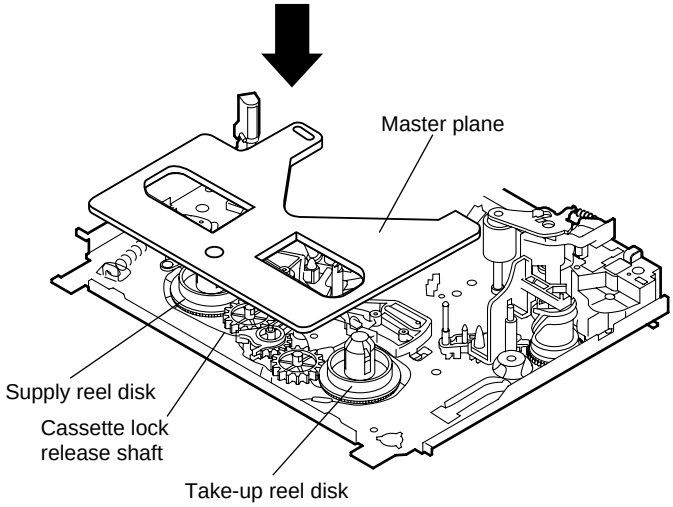


Figure 4-4.

Note:

- Check that the reel disk is lower than part A but higher than part B. If the height is not correct, readjust the reel disk height by changing the poly-slider washer under the reel disk.

Note:
Whenever replacing the reel disk, perform the height checking and adjustment.

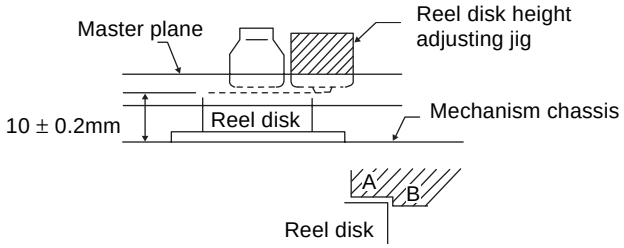


Figure 4-5.

4-6 CHECKING AND ADJUSTMENT OF TAKE-UP TORQUE IN FAST FORWARD MODE

- **Remove the cassette housing control assembly.**

- **After short-circuiting between TP803 and TP802 provided at operation PWB, plug in the power cord.**

- **Setting**

1. Set a torque gauge to zero on the scale. Place it on the take-up reel disk.
2. Press the FF button.
3. To calculate the remaining capacity of the play back mode, slowly rotate the supply reel disk, and then shift it into the forward mode.

- **Checking**

1. Turn the torque gauge slowly (one rotation every 2 to 3 seconds) by hand in the CW direction.
2. Make sure that the indication of torque gauge is not less than 30mN·m (306gf·cm).

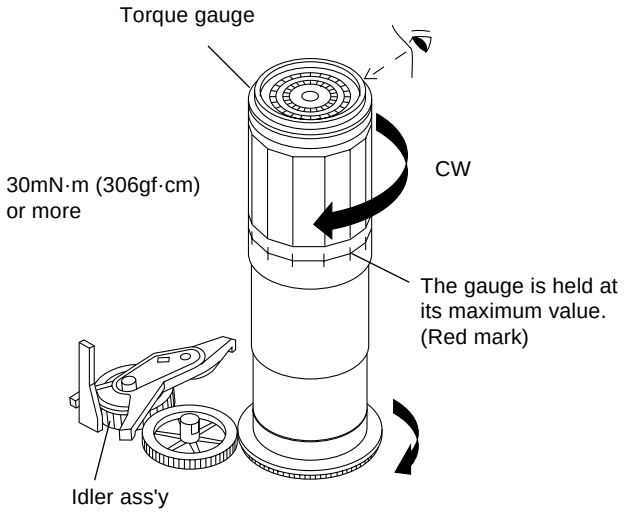


Figure 4-6.

- **Adjustment**

1. If the FF winding-up torque is less than the specified value, clean the capstan D.D. worm gear, drive belt, and limiter pulley with cleaning liquid, and check again.
2. If the torque is less than the set value, replace the reel belt.

Notes:
1. Hold the torque gauge by hand so that it is not moved.
2. Do not keep the reel disk in lock state. Do not allow long-time measurement.

4-7 CHECKING AND ADJUSTMENT OF TAKE-UP TORQUE IN REWIND MODE

- **Remove the cassette housing control assembly.**

- **After short-circuiting between TP803 and TP802 provided at operation PWB, plug in the power cord.**

- **Setting**

1. Set a torque gauge to zero on the scale. Place it on the supply reel disk.
2. Press the rewind button.
3. To calculate the remaining capacity, slowly rotate the take-up reel disk, and then shift it into the rewind mode.

- **Checking**

1. Turn the torque gauge slowly (one rotation every 2 to 3 seconds) by hand in the CCW direction.
2. Make sure that the indication of torque gauge is not less than 30mN·m (306gf·cm).

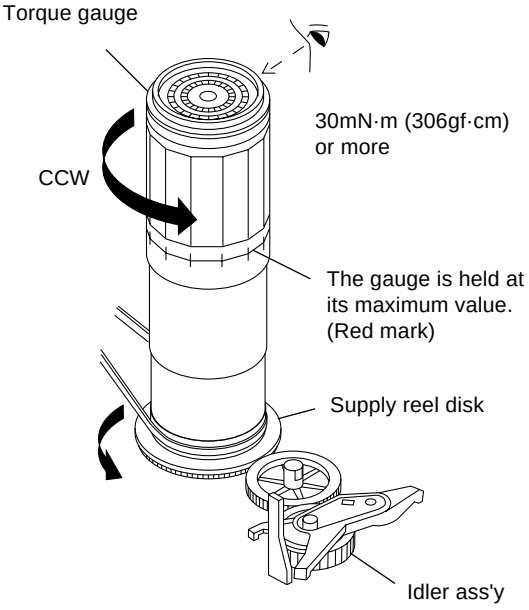


Figure 4-7.

- **Adjustment**

1. If the rewind winding-up torque is less than the specified value, clean the capstan D.D. worm gear, drive belt, and limiter pulley with cleaning liquid, rewind again, and check the winding-up torque.
2. If the winding-up torque is still out of range, replace the drive belt.

Notes:
1. Hold the torque gauge by hand so that it is not moved.
2. Do not keep the reel disk in lock state. Do not allow long-time measurement.

4-8 CHECKING AND ADJUSTMENT OF TAKE-UP TORQUE IN RECORD/PLAYBACK MODE

- **Remove the cassette housing control assembly.**
- **After short-circuiting between TP803 and TP802 provided at operation PWB, plug in the power cord.**
- **Turn off the power switch.**
- **Open the cassette torque meter lid, and fix it with tape.**
- **Load the cassette torque meter into the unit.**
- **Put the weight (500g) on the cassette torque meter.**
- **Turn on the power switch.**
- **Press the picture record button, and set EP picture record mode (x3).**

Set value EP change to $6.9^{+2.0}_{-2.5}$mN·m (70^{+20}_{-25}gf·cm)

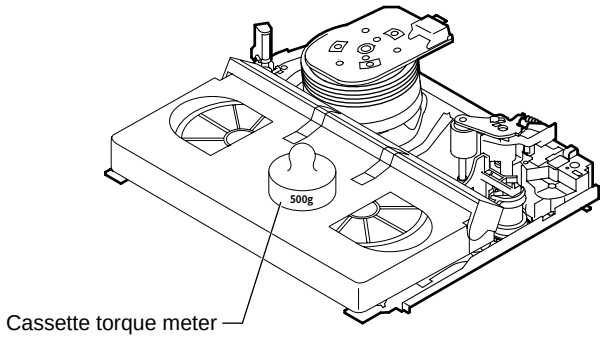


Figure 4-8.

- **Checking**

1. Make sure that value is within the setting $6.9^{+2.0}_{-2.5}$mN·m (70^{+20}_{-25}gf·cm).
2. The winding-up torque fluctuates due to variation of rotation torque of limiter pulley ass'y. Read the center value of fluctuation as setting.
3. Set the EP record mode (x3) and make sure that the winding-up torque is within setting.

- **Adjustment**

If the playback winding-up torque is not within the setting, replace the limiter pulley assembly.

Note:
When the torque cassette is set, put a weight (500g) to prevent rise.
When the cassette torque meter is taken out.
Turn off the power switch.

4-9 CHECKING AND ADJUSTMENT OF TAKE-UP TORQUE IN VIDEO SEARCH REWIND MODE

- **Remove the cassette housing control assembly.**
- **After short-circuiting between TP803 and TP802 provided at operation PWB, plug in the power cord.**
- **Setting**

Press the playback button and rewind button to set the video search rewinding mode.

- **Checking**

Place the torque gauge on the supply reel disk, and turn it counterclockwise very slowly (one rotation every 1 to 2 seconds) and check that the torque is within the set value change to 14.1 ± 3.5mN·m. (144 ± 35gf·cm)

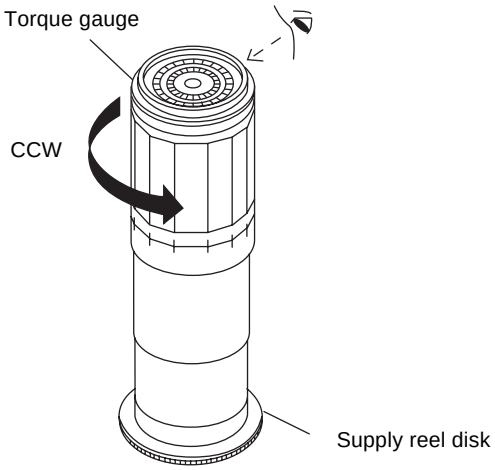


Figure 4-9.

Note:
Surely put the torque gauge on the reel disk to measure. If the torque gauge is raised, accurate measurement is impossible.

- **Adjustment**

If the rewinding playback winding-up torque is not within the setting, replace the limiter pulley assembly.

Note:
The winding-up torque fluctuates due to variation of rotation torque of supply reel disk. Read the center value of fluctuation as setting.

4-10 CHECKING THE VIDEO SEARCH REWIND BACK TENSION

- **Remove the cassette housing control assembly.**

- **After short-circuiting between TP803 and TP802 provided at operation PWB, plug in the power cord.**

- **Checking**

1. After pressing the play button, press the rewind button, and set the video search rewind mode.
2. Place the torque gauge on the take-up reel disk, and turn it counterclockwise very slowly (one rotation every 2 to 3 seconds) and check that the torque is within the set value 3.4 ± 1.5mN·m (35 ± 15gf·cm).

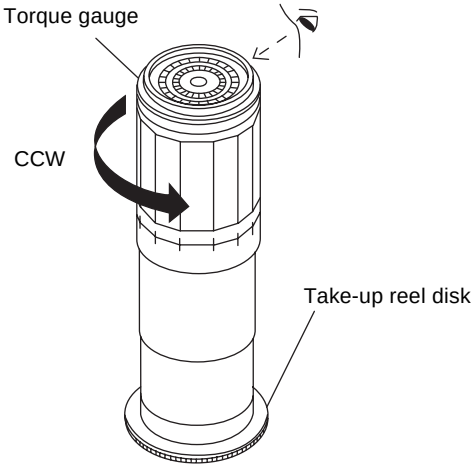


Figure 4-10.

Notes:

Set the torque gauge securely on the take-up reel disk. If it is not secure, the measurement will be incorrect.

4-11 CHECKING THE PINCH ROLLER PRESSURE

- **Remove the cassette housing control assembly.**

- **After short-circuiting between TP803 and TP802 provided at operation PWB, plug in the power cord.**

- **Checking**

Press the play button to set the playback mode.

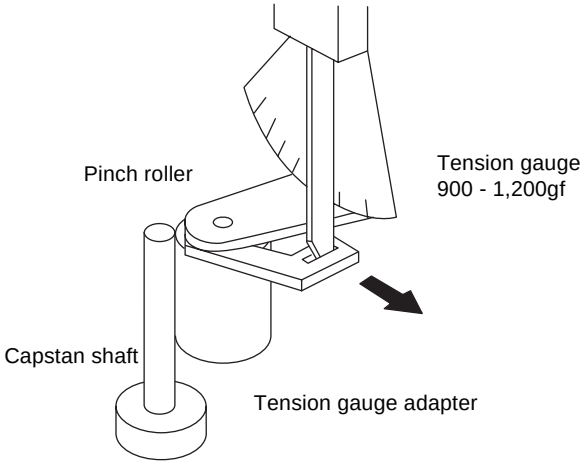


Figure 4-11.

1. Detach the pinch roller from the capstan shaft. Do not separate excessively. Or the pinch lever and pinch double action lever may disengage.
2. Engage the tension gauge adapter with the pinch roller shaft, and pull in the arrow direction.
3. Gradually return the pinch roller, and measure the pulling force when the pinch roller contacts the capstan shaft.
4. Make sure that the measured value is within setting change to 9.8 ± 1N (1.0 ± 0.1kgf).

4-12 CHECKING AND ADJUSTMENT OF TENSION POLE POSITION

- **Remove the cassette housing control assembly.**

- **After short-circuiting between TP803 and TP802 provided at operation PWB, plug in the power cord.**

- **Setting**

1. Turn off the power switch.
2. Open the cassette tape (T-120), and fix with tape.
3. Set the cassette tape in loading state.
4. Put the weight (500g) on the cassette tape.
5. Turn on the power switch.
6. Make the adjustment with the beginning of a T-120 tape.

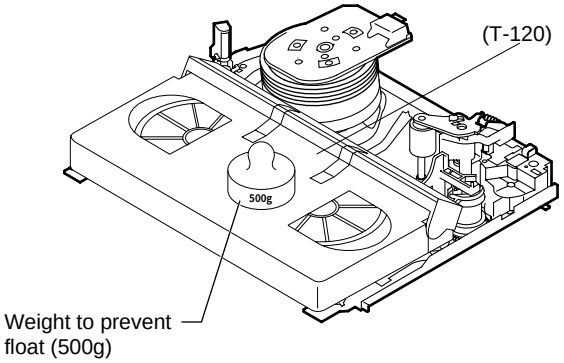
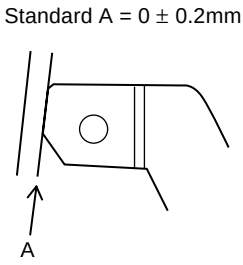


Figure 4-12.

- **Checking**

1. Set a cassette tape, push the REC button to place the unit in the SP record mode. Now check the tension pole position.

2. Visually check to see if the position of the tension pole is within the 0 ± 0.2mm from the left side line.



Make the adjustment with the beginning of a T-120 tape.

Figure 4-13.

At left side from the reference line. (A).

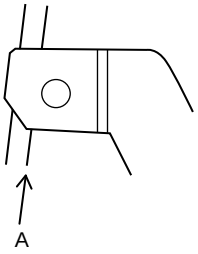


Figure 4-14.

Insert the tension pole adjustment driver, and rotate counterclockwise.

At right side from the reference line. (A).

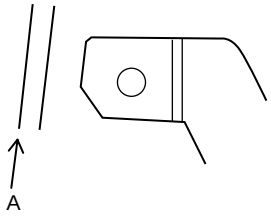


Figure 4-15.

Insert the tension pole adjustment driver, and rotate clockwise.

Tension pole adjustment driver adjusting direction

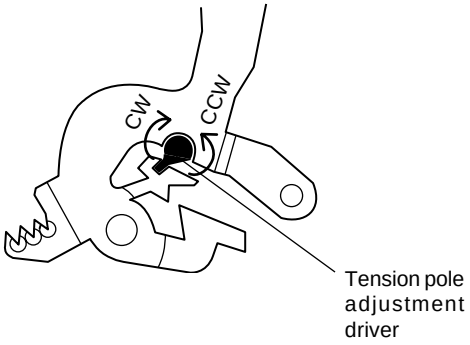


Figure 4-16.

4-13 CHECKING AND ADJUSTMENT OF RECORD/PLAYBACK BACK TENSION

- **Remove the cassette housing control assembly.**
- **After short-circuiting between TP803 and TP802 provided at operation PWB, plug in the power cord.**
- **Setting**

1. Turn off the power switch.
2. Open the torque cassette meter and fix with tape.
3. Set the cassette tape in loading state.
4. Put the weight (500g) on the cassette torque meter.
5. Turn on the power switch.

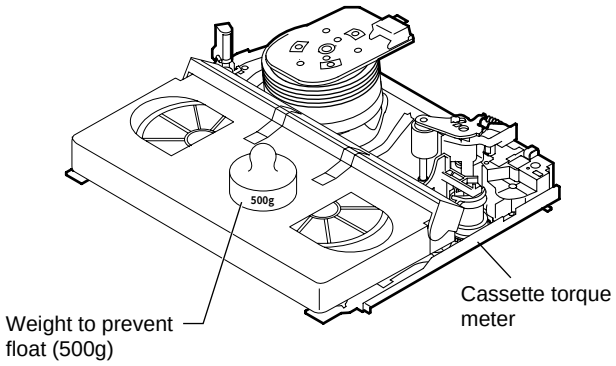


Figure 4-17.

- **Checking**

1. Push the REC button to place the unit in the SP record mode.
2. At this time ascertain that the back tension is within the setting change to 3.9 to 5.5mN·m (40 to 56gf·cm) by seeing the indication of torque cassette meter.

- **Adjustment**

1. If the indication of torque cassette meter is lower than the setting, shift the tension spring engagement to the part A.
2. If the indication of torque cassette meter is higher than the setting, shift the tension spring engagement to the part B.

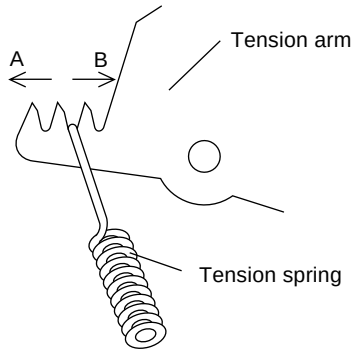
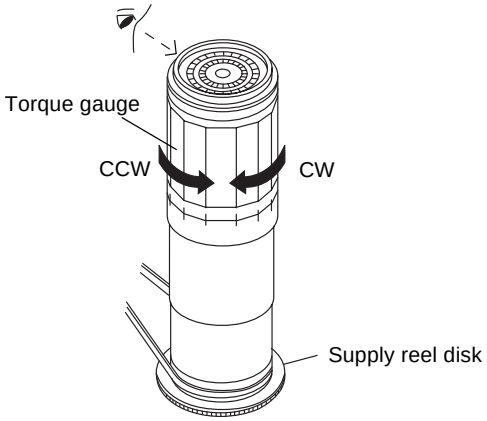


Figure 4-18.

4-14 CHECKING THE BRAKE TORQUE

- **Checking the brake torque at the supply side**



CCW:	4.41 ± 15mN·m (45 ± 15gf·cm)
CW:	4.12 ± 1.2mN·m (42 ± 12gf·cm)

Figure 4-19.

- **Remove the cassette housing control assembly.**

- **After short-circuiting between TP803 and TP802 provided at operation PWB, plug in the power cord.**

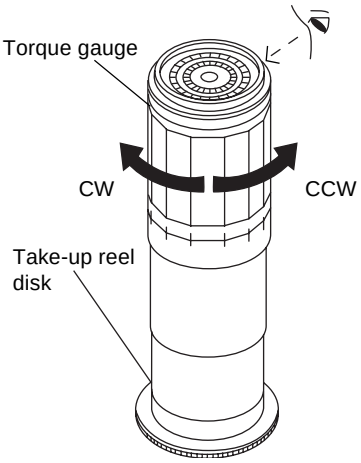
- **Setting**

1. Set a torque gauge to zero on the scale. Place it on the supply reel disk.
2. Switch from the FF mode to the STOP mode.
3. Disconnect the power cord.

- **Checking**

Turn the torque gauge at a rate of about one turn/2 sec in the CW direction/CCW direction with respect to the supply reel disk so that the reel disk and torque gauge pointer rotate at equal speed, and make sure that the value is within the setting (CW direction: 4.12 ± 1.2mN·m (42 ± 12gf·cm); CCW direction: 4.41 ± 15mN·m (45 ± 15gf·cm).

- **Checking the brake torque at the take-up side**



CCW:	4.41 ± 1.5mN·m (45 ± 15gf·cm)
CW:	4.12 ± 1.2mN·m (42 ± 12gf·cm)

Figure 4-20.

- **Remove the cassette housing control assembly.**

- **After short-circuiting between TP803 and TP802 provided at operation PWB, plug in the power cord.**

- **Setting**

1. Switch from the FF mode to the STOP mode.
2. Disconnect the power cord.
3. Set a torque gauge to zero on the scale. Place it on the take-up reel disk.

- **Checking**

1. Turn the torque gauge at a rate of about one turn/2 sec in the CCW direction/CW direction so that the reel disk and torque gauge pointer rotates at equal speed and make sure that the value is within the setting (CCW direction: 4.41 ± 1.5mN·m (45 ± 15gf·cm), CW direction: 4.12 ± 1.2mN·m (42 to 12gf·cm).

2. Adjustment of the brake torque at the supply side and the take-up side

- Unless the supply side brake torque or take-up side brake torque is within the setting, clean the felt surface of reel disk (supply, take-up) brake lever, check again the brake torque.
- If value cannot be set within the setting yet, replace the main brake ass'y or main brake spring.

4-15 REPLACEMENT OF A/C (AUDIO/CONTROL) HEAD

1. Remove the cassette housing control assembly.
2. In unloading state unplug the power cord.

- **Removal**

1. Remove the screws ①②③, Tilt screw.
2. Unsolder the PWB fitted to the A/C head.

Notes:

1. When replacing, never touch the head. If you touched, clean with the cleaning liquid.
2. When removing the screw ③, take care so that the spring may out.

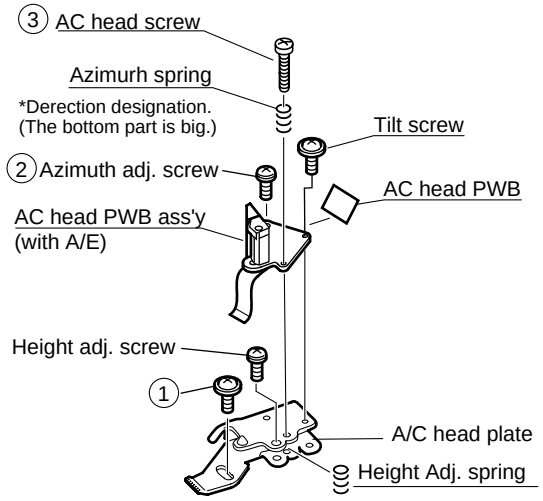


Figure 4-21.

- **Replacement**

1. Solder the removed PWB to the new head assembly.
2. Adjust the height from the A/C head arm (lower surface) to the A/C head plate to 10.8mm with slide calipers. (3 places of azimuth screw section, tilt screw section and A/C head front section) (See the figure below.)

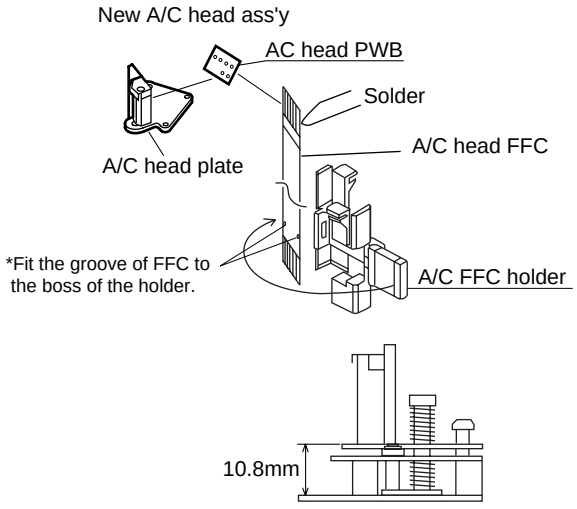


Figure 4-22.

3. Align the left end of gear of A/C head arm with the punched mark of chassis, tentatively tighten the screws ① so as to ensure smooth motion of A/C head arm. Tightening torque must be 0.45 ± 0.05N·m (4.5 ± 0.5kgf·cm).

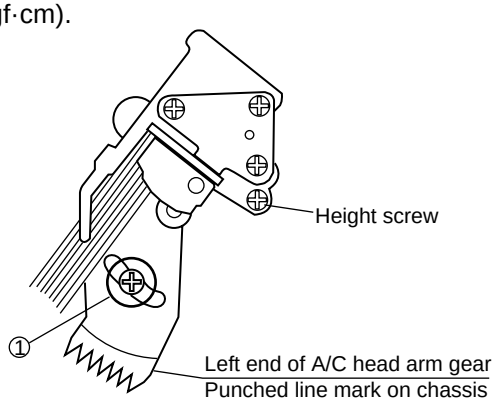


Figure 4-23.

Note:

1. If the screw ① is tighten tentatively too loose, the azimuth and height of A/C head may change when they are finally tightened. Therefore care must be taken.
2. After completion of A/C head be sure to adjust tape running. (Execute the running adjustment by the method described in **4-17**.)

4-16 A/C HEAD HEIGHT ROUGH ADJUSTMENT

- **Setting**

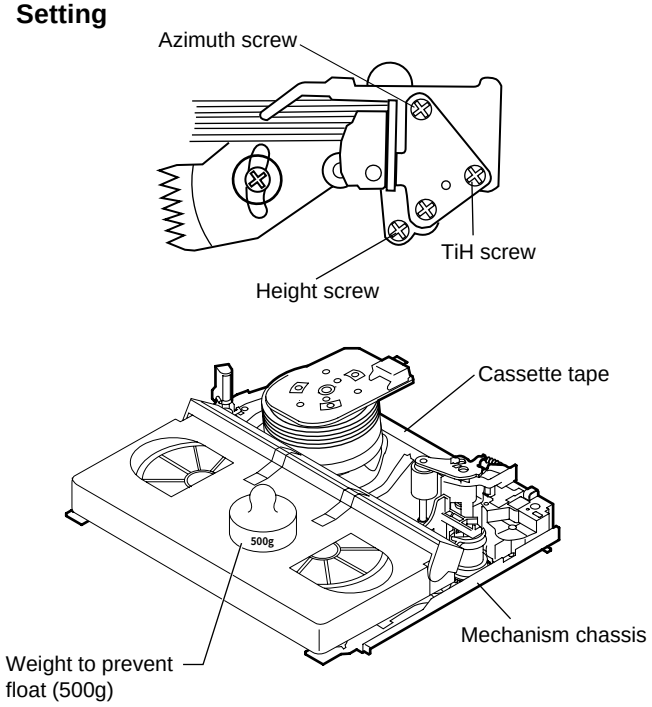


Figure 4-24.

1. Set the cassette tape in the unit.
2. Press the PLAY button to put the unit in the playback mode.
3. Roughly adjust the height of the A/C head by turning the height screw until the tape is in the position shown below.

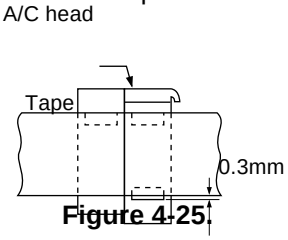


Figure 4-25.

- **Adjustment**

Adjust the height screw visually so that the control head is visible 0.3mm below the bottom of the tape.

4-17 ADJUSTMENT OF TAPE DRIVE TRAIN

1. Tape run rough adjustment
   ① Remove the cassette housing control assembly.
   ② After shortcircuiting between TP803 and TP802 provided at operation PWB, plug in the power cord.
   ③ Check and adjust the position of the tension pole. (See **4-12**.)
   ④ Check and adjust the video search rewind back tension. (See **4-10**.)
   ⑤ Connect the oscilloscope to the test point for PB ATR signal output (TP201). Set the synchronism of the oscilloscope to EXT. The PB ATR signal is to be triggered by the head switching pulse (TP202).
   ⑥ Set the alignment tape (VROATSV) to play. (Put a 500g weight on the cassette tape to prevent lift of cassette tape.)

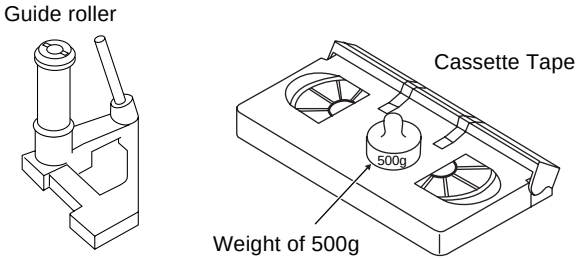


Figure 4-26.

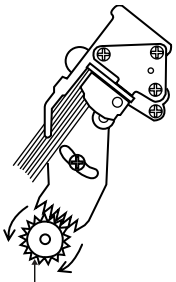
   ⑦ Press the tracking button (+), (–) and change the ATR signal waveform from max to min and from min to max. At this time make sure that the ATR signal waveform changes nearly parallel.
   ⑧ Unless the ATR signal waveform changes nearly parallel, adjust the height of supply side and take-up side guide roller so that the envelope waveform changes nearly parallel. (For ATR signal adjustment procedure refer to Figure 4-30.)
   ⑨ Turn the tilt screw to remove the tape crease at the fixing guide flange.
   Playback the tape and check for tape crease at the fixing guide flange.
   (1) If there is no tape crease
   Turn the tilt screw clockwise so that tape crease appears once at the flange, and then return the tilt screw so that the crease disappears.
   (2) If there is tape crease
   Turn counterclockwise the tilt screw so that the tape crease disappears.
   (Reference) If the tilt screw is turned clockwise crease appears at the lower flange.

Notes:

1. Previously set the tracking control in the center position, and adjust the ATR signal waveform to maximum with X value adjustment nut. Thereby the tape run rough adjustment is facilitated.
2. Especially the outlet side ATR signal waveform must have higher flatness.

Figure 4-27.

2. Adjustment of A/C head height and azimuth
   ① Perform the initial setting of A/C head position by the method stated in "**4-15** Replacement 3".
   ② Connect the oscilloscope to the audio output terminal.
   ③ Using the alignment tape in which 1 kHz linear audio signal has been recorded, adjust the height screw so as to get max audio output.
   ④ Using the alignment tape in which 7 kHz linear audio signal has been recorded, adjust the azimuth screw so as to get max audio output.
   ⑤ The adjustment of ③ and ④ twice or three times repeat, and finally adjust ④.

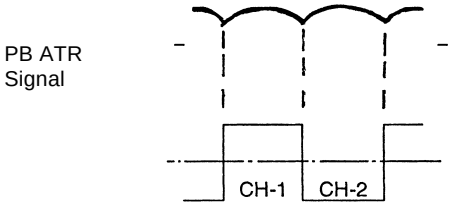


For X value adjustment
Adjust the X value, turning the gear-type screwdriver.

Figure 4-28.

3. Tape run adjustment
   ① Connect the oscilloscope to PB ATR signal output test point, set oscilloscope sync to EXT, trigger-input the PB CHROMA signal (head switching pulse).
   ② Rough adjustment of X value
   Tentatively fix A/C head arm screws ① by the method described in **4-15** "Replacement 3".
   Playback the alignment tape (VROATSV) and shortcircuit between TP801 and TP802. As a result the auto-tracking is automatically cancelled, so that the X value adjustment mode is set.
   Move the A/C head with the X value adjustment gear driver (JiGDRiVER-6) by the method shown in Figure 4-33, and adjust the A/C head so as to get the maximum ATR signal waveform. (Note: When the A/C head is adjusted, adjust so that the maximum ATR signal waveform is obtained nearest the position of initial setting made in **4-15**.)

③ Next, press the tracking button (+), (–) and change the ATR signal waveform from max to min and from min to max. At this time adjust the height of supply and take-up side guide roller with the adjustment driver (JiGDRiVERH-4) so that the ATR signal waveform changes nearly parallel.
④ If the tape is lifted or sunk from the helical lead surface, the PB ATR signal waveform appears as shown in Figure 4-30.
⑤ Press the tracking button (+), (–) and make sure that the ATR signal waveform changes nearly parallel.
⑥ Finally, check tape crease near the reverse guide. If tape crease is found, adjust tilt screw 45˚ counter clockwise. Small tape crcase will appear at retain guide after this adjustment finished.



Head switching pulse

Figure 4-29.

4. A/C head X value adjustment
   ① Fix A/C head arm screws ① by the method described in **4-15** "Replacement 3".
   ② Playback the alignment tape (VROATSV), and shortcircuit between TP801 and TP802. As a result the auto-tracking is automatically cancelled, so that the X value adjustment mode is set.

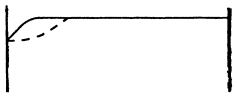
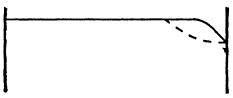
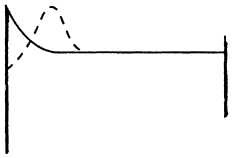
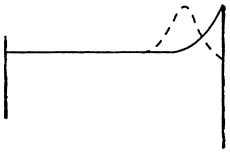
	When the tape is above the helical lead.		When the tape is below the helical lead.	
	Supply side	Take-up side	Supply side	Take-up side
				
				
Adjustment	Supply side guide roller rotated in clockwise direction (lowers guide roller) to flatten ATR signal.	Take-up side guide roller rotated in clockwise direction (lowers guide roller) to flatten ATR signal.	Supply side guide roller rotated in counterclockwise direction (raises guide roller) to make the tape float above the helical lead. The supply side guide roller is then rotated in the clockwise direction to flatten the ATR signal.	Take-up side guide roller rotated in counterclockwise direction (raises guide roller) to make the tape float above the helical lead. The take-up side guide roller is then rotated in the clockwise direction to flatten the ATR signal.

Figure 4-30.

③ Move the A/C head with the X value adjustment gear driver by the method shown in Figure 4-33, and adjust the A/C head so as to get the maximum ATR signal waveform. (Note: At this time adjust so as to get the maximum ATR signal waveform nearest the A/C head position which has been set in case of X value rough adjustment as stated in **4-17**, 3- ②.)
④ Adjust the playback switching point (Refer to the electric adjustment method.)
⑤ Playback the self-picture-recorded tape, and check the flatness of ATR signal waveform and sound.

Notes:
When the A/C head X value adjustment is performed, be sure to perform at first X value rough adjustment (refer to **4-17**, 3-②).

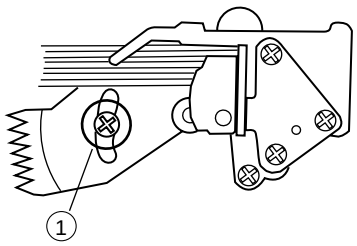


Figure 4-31.

4-18 REPLACEMENT OF THE CAPSTAN D.D. (DIRECT DRIVE) MOTOR

- Remove the mechanism from the main PWB (refer to **2-2** item 1 When removing the mechanism from the main PWB).

- **Removal (Follow the order of indicated numbers.)**

1. Remove the reel belt ①.
2. Remove the slow brake lever ②.
3. Remove the three screws ③.

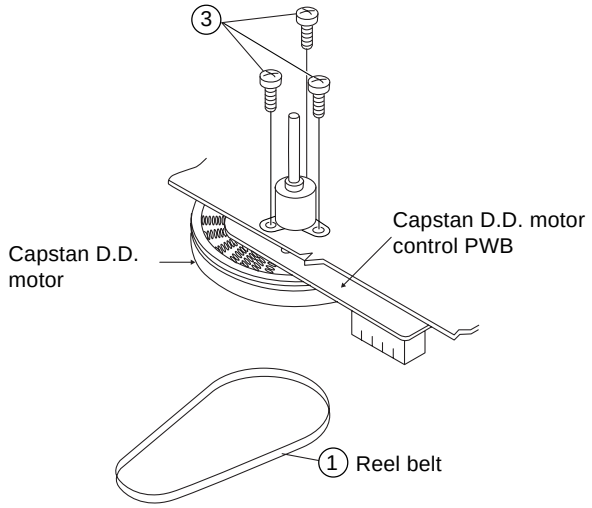


Figure 4-32.

- **Reassembly**

1. Taking care so that the capstan shaft does not contact the mechanism chassis, set its position on the mechanism chassis, and then install with the three screws.
2. Install the reel belt.

Notes:

1. After installing the capstan D.D. motor, be sure to rotate the capstan D.D. motor and check the movement.
2. Set the tape, and check for the tape crease near the reverse guide in the playback mode. Adjust the A/C head and azimuth as stated in **4-17** item 2.

4-19 REPLACEMENT OF DRUM D.D. MOTOR

1. Set the ejection mode.
2. Withdraw the main power plug from the socket.

- **Removal (Perform in numerical order.)**

1. Disconnect the FFC cable ①.
2. Unscrew the D.D. stator assembly fixing screws ②.
3. Take out the D.D. stator assembly ③.
4. Unscrew the D.D. rotor assembly fixing screws ④.
5. Take out the D.D. rotor assembly ⑤.

Notes:

1. In removing the D.D. stator assembly, part of the drum earth spring pops out of the pre-load collar. Be careful not to lose it.
2. Install, so that the D.D. rotor ass'y and upper drum ass'y mounting direction check holes align. (Align the upper drum dent with the rotor hole.)
3. Be careful not to damage the upper drum or the video head.
4. Protect the hole elements from shock due to contact with D.D. stator or D.D. rotor ass'y.
5. After installation adjust the playback switching point for adjustment of servo circuit.

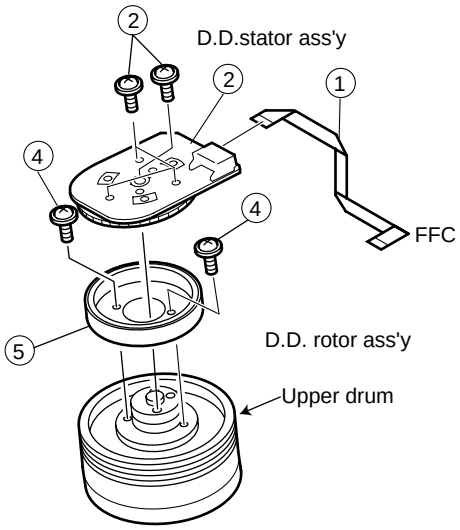


Figure 4-33.

4-20 REPLACING THE UPPER AND LOWER DRUM ASSEMBLY

• Replacement (Perform in the numerical order)
① Remove the motor as stated in **4-19** D.D. motor replacement.
② Remove the drum earth brush ass'y ②.
③ Remove the upper and lower drum assembly from main chassis ①. 4. Remove the drum FFC holder ③.

[Cares when replacing the drum]

1. Be careful so that the drum earth brush is not lost.
2. Do not touch directly the drum surface.
3. Fit gently the screwdriver to the screws.
4. Since the drum assembly is an extremely precise assembly, it must be handled with utmost care.
5. Make sure that the drum surface is free from dust, dirt and foreign substances.
6. After replacing the drum be sure to perform the tape running adjustment.
   After that, perform also the electrical adjustment.
   • Playback switching point adjustment
   • X-position adjustment and check
   • Standard and x-3 slow tracking adjustment
7. After replacing the drum clean the drum.

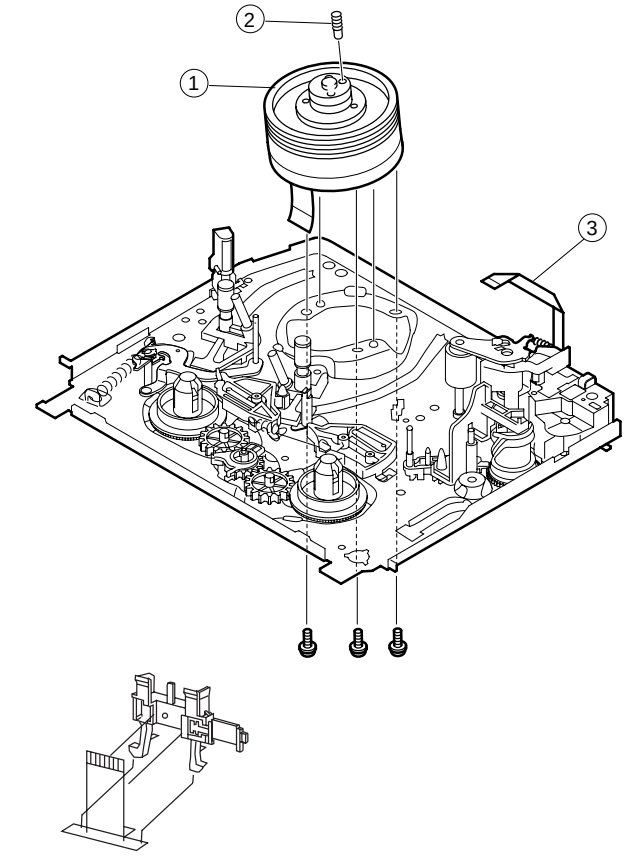


Figure 4-34.

4-21 ASSEMBLING OF PHASE MATCHING MECHANISM COMPONENTS

- **Assemble the phase matching mechanism components in the following order.**

1. Assemble the reverse guide lever and pinch drive cam.
2. Mounting the shifter (on the back of the mechanism chassis).
3. Mounting the master cam (on the back of the mechanism chassis).
4. Assemble the loading motor parts.

• PINCH DRIVE CAM AND REVERSE GUIDE LEVER ASSEMBLING METHOD.

(Place the following parts in position in numerical order.)
(1)Pinch drive cam
(2)Reverse guide spring ②
(3)Reverse guide lever ass'y ③
(4)Open guide

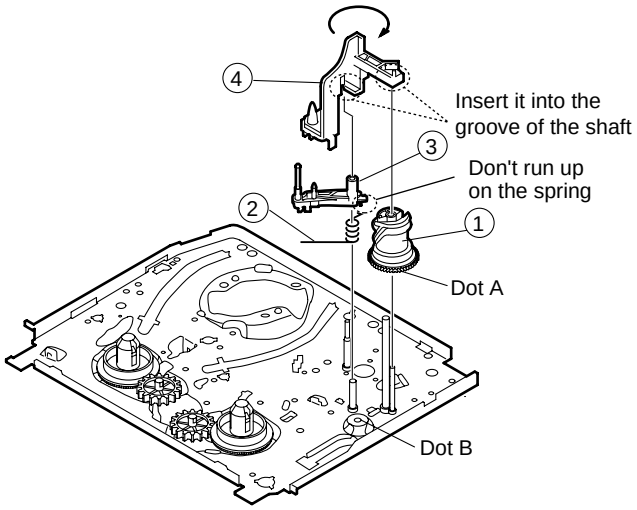
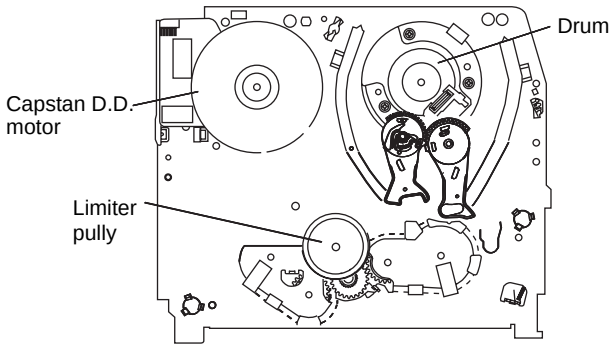


Figure 4-35.

4-22 INSTALLING THE SHIFTER



(Bottom side of mechanism chassis)

Figure 4-36.

1. Make sure that the loading arm T and S are at the Phase-Matching point as shown below ⓐ.
2. Fix the shifter position setting part to the roading arm T position setting part as shown in figure ⓑ
3. Make sure tension arm not run on the shifter as shown in figure ⓒ.

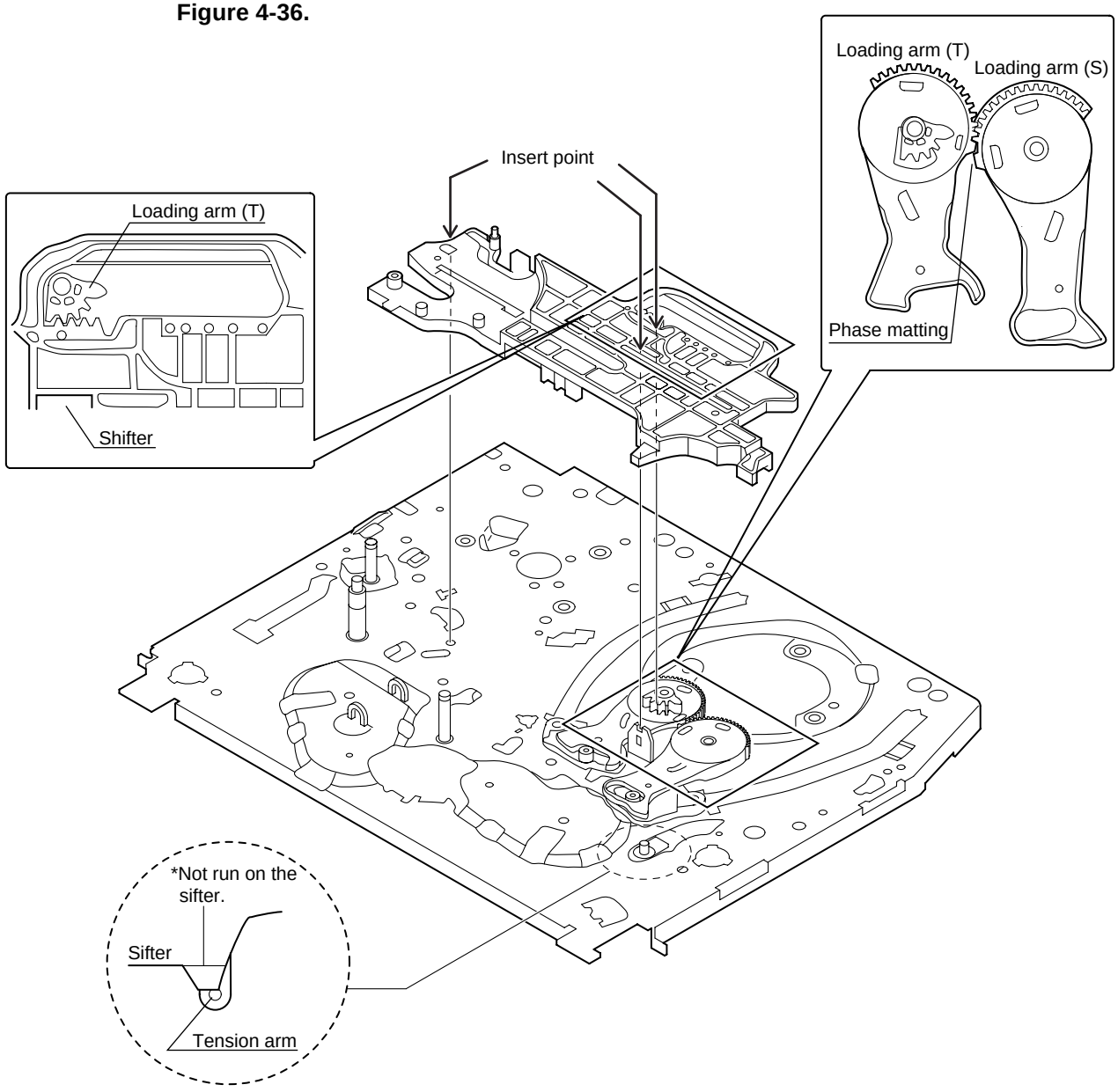


Figure 4-37.

4-23 INSTALLING THE MASTER CAM (AT REAR SIDE OF MECHANISM CHASSIS)

1. Make sure beforehand that the shifter is at initial position.
2. Place the master cam in the position as shown below.

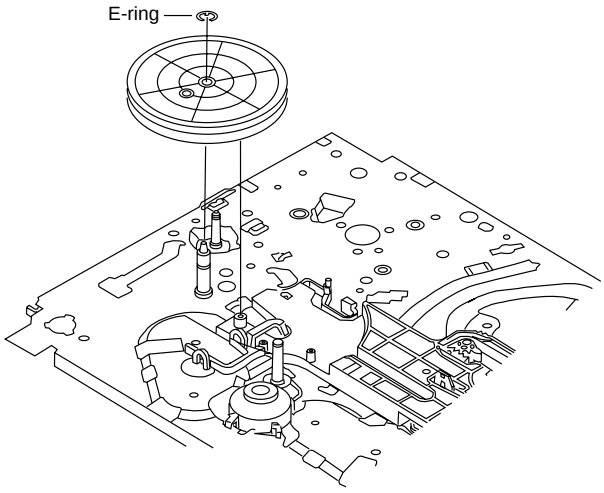


Figure 4-38-1.

Note:
See the figure below for the phase matching between the master cam synchro gear and pinch drive cam.

3. Finally fix with the E ring.

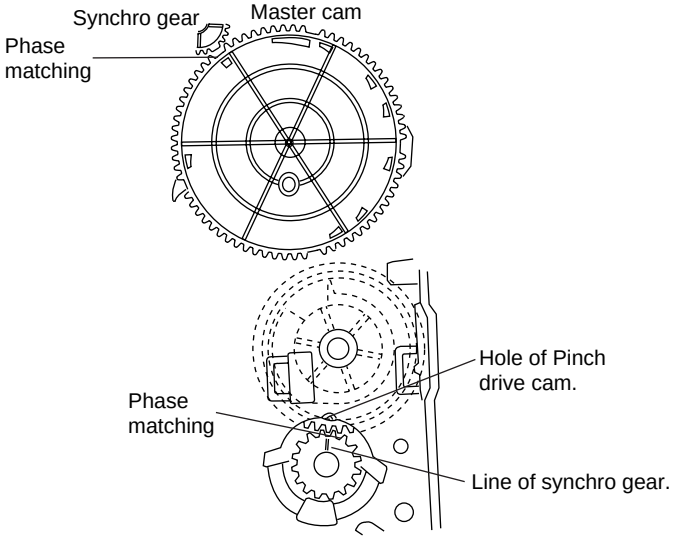


Figure 4-38-2.

4-24 REPLACEMENT OF LOADING MOTOR

- **Removal**

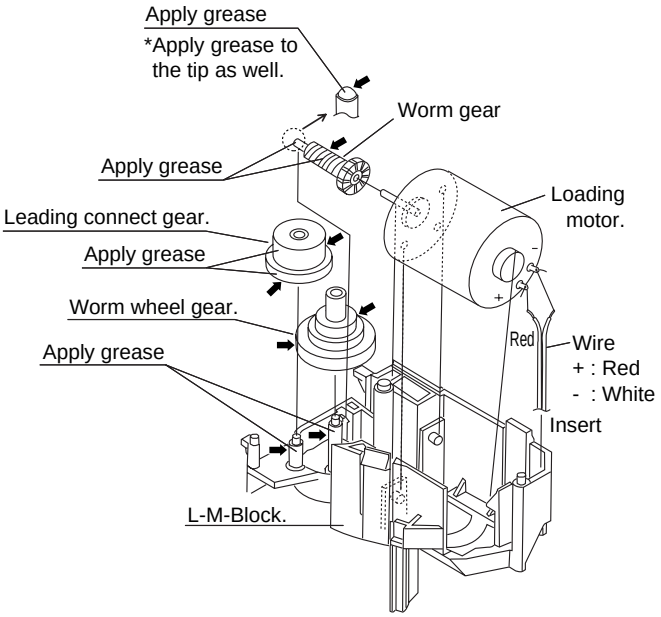


Figure 4-39.

- **Replacement**

Remove the loading motor, and install the replacement loading motor as shown below.

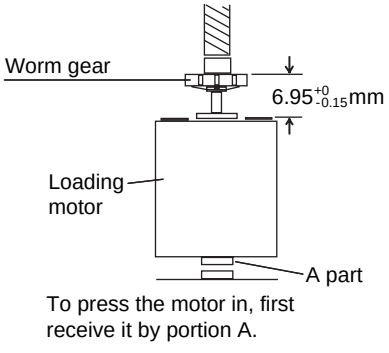


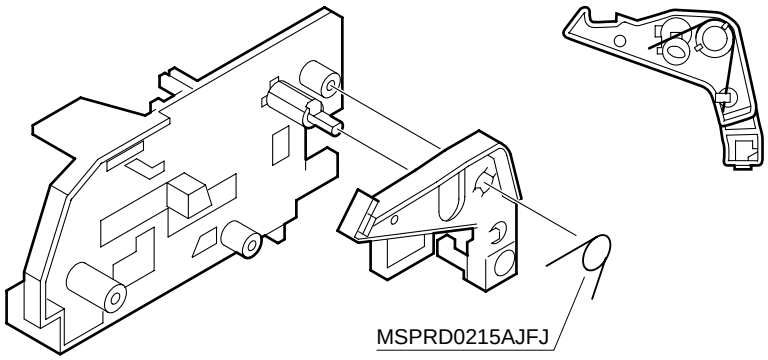
Figure 4-40.

The loading motor pressing-in must be less than 14.7 N (1,500 gf).

Adjust the distance between motor and pulley to $6.95^{+0}_{-0.15}$mm.

4-25 ASSEMBLY OF CASSETTE HOUSING

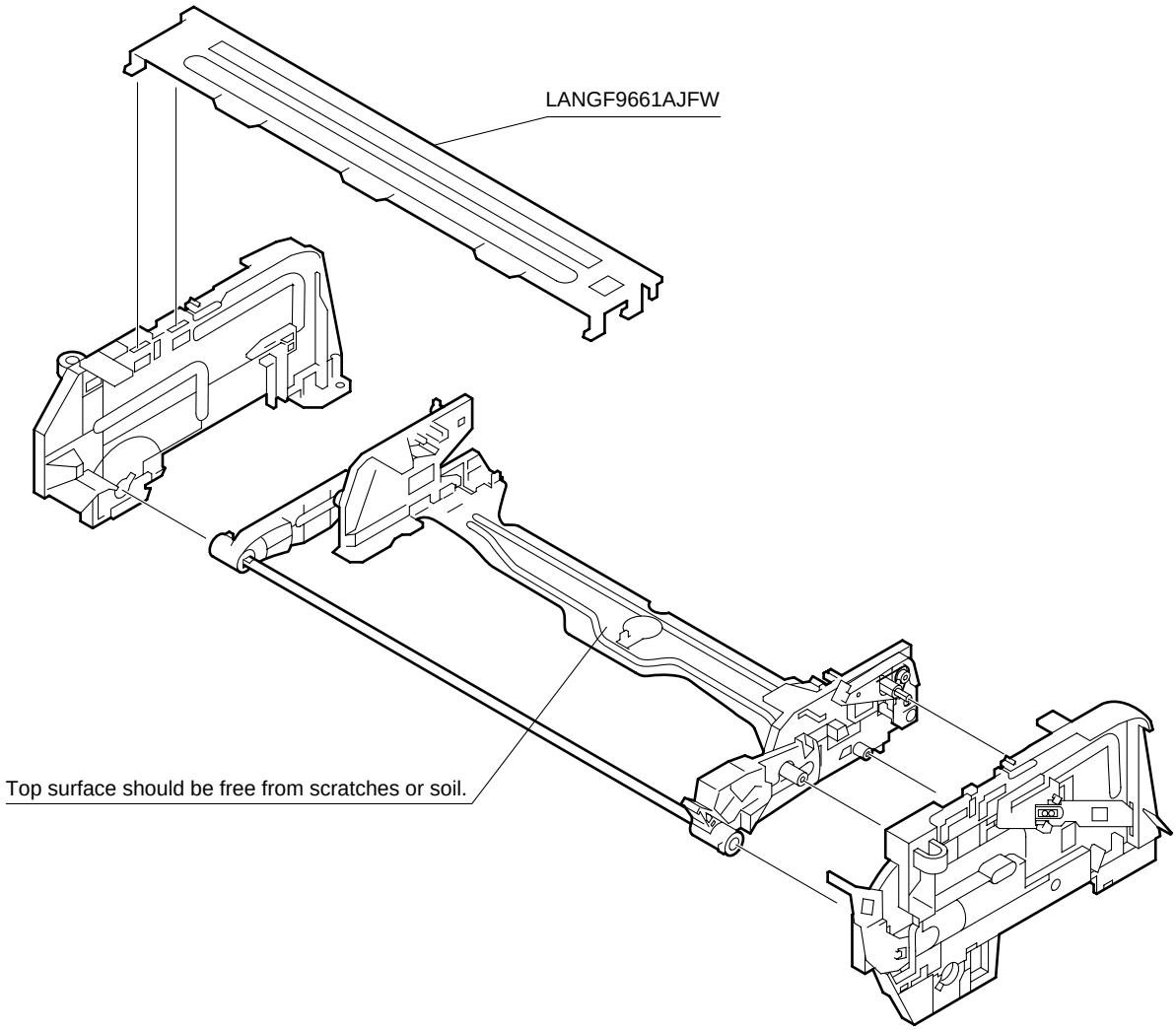
1. Proof lever Proof lever spring and Holder R



*Proof lever spring fixing direction designated.

Figure 4-41.

2. Frame R, Frame L, Drive Arm R, Drive Arm L, Upper Plate.



5. ELECTRICAL ADJUSTMENT

Notes:

• **Before the adjustment:**

Electrical adjustments discussed here are often required after replacement of electronic components and mechanical parts such as video heads.

Check that the mechanism and all electric components are in good working condition prior to the adjustments, otherwise adjustments cannot be completed.

• **Instruments required:**

- Color TV monitor
- Audio signal generator
- Blank video cassette tape
- Screwdriver for adjustment
- RF signal generator
- Dual-trace oscilloscope
- AC milli-voltmeter
- Alignment tape (VROEFZHS)
- Color bar generator

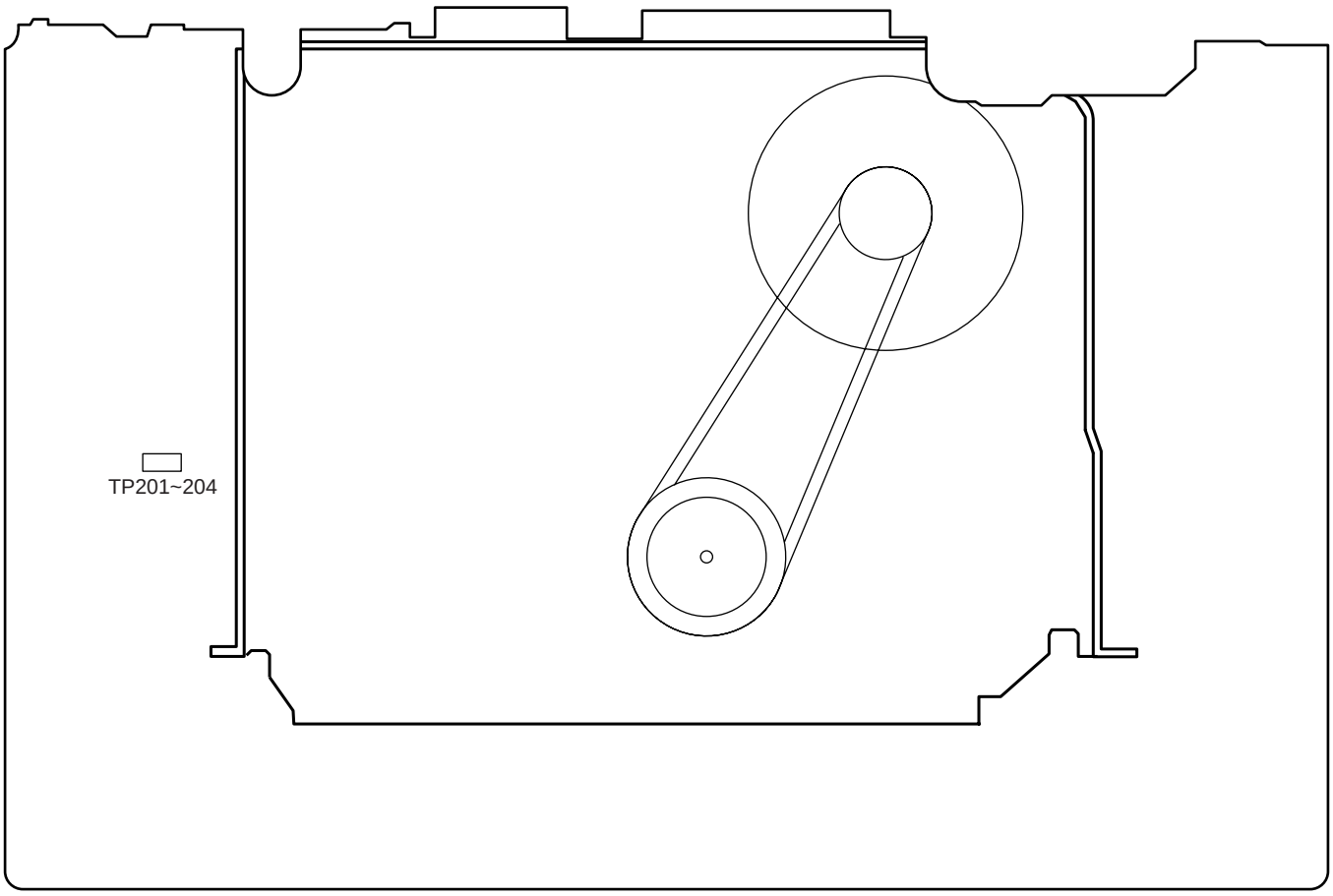


Figure 5-1.

SERVO CIRCUIT ADJUSTMENT

5-1 ADJUSTMENT OF HEAD SWITCHING POINT

Measuring instrument	Dual-trace oscilloscope
Mode	Playback
Cassette	Alignment tape (VROEFZHS)
Test point	VIDEO OUT jack to CH2 TP202 (Sig.)~TP203 (GND) to CH1
Control	Call up the test mode (short circuit between TP801 and TP802 on the operation PWB). Use the tracking/ channel select (▲) and (▼) buttons of the set.
Specification	6.0 ± 0.5H (lines)

1. Connect a dual-trace oscilloscope to the VIDEO OUT jack and TP202 (Sig.) and TP203 (GND).
   (Trigger the oscilloscope with the head switching pulse on TP202.)
2. Playback the alignment tape, and then short circuit between TP801 and TP802 on the operation PWB to call the test mode.
3. Press the PLAY button, and the play LED starts blinking and the automatic adjustment function gets started.
4. Wait until the play LED stays on to indicate that the adjustment is complete.
5. Watch the oscilloscope screen and make sure that the leading edge of the head switching pulse is 6.0H (lines) ahead of the vertical sync as shown in Figure 5-2.
6. If the setting is out of this range, readjust the data using the channel select (▲) and (▼) buttons of the set or the remote controller.
7. Finally press the STOP button to quit the test mode.

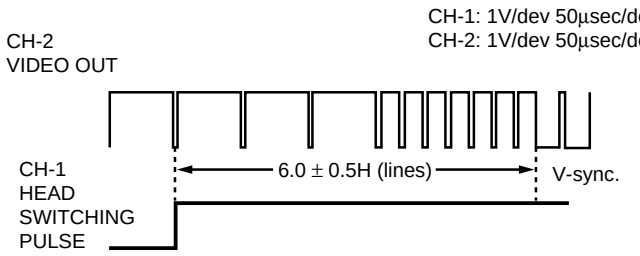


Figure 5-2.

5-2 ADJUSTMENT OF FV (False Vertical Sync) OF STILL PICTURE

Measuring instrument	Color TV monitor
Mode	Playback still
Cassette	Self-recorded tape (SP mode) (See Note below 2)
Control	Tracking control buttons(+) or (–)
Specification	No vertical jitter of picture

1. Play a cassette which was recorded by the unit in SP mode.
2. Press the PAUSE/STILL button to freeze the picture.
3. Look at the monitor screen and adjust (+) or (–) TRACKING buttons so that the vertical jitter of the picture is minimized.
4. Play and freeze the self-recorded tape in EP mode and make sure vertical jitter of the picture is not noticeable.

Note:

1 The FV goes back to the it's initial state when the unit is put into the system controller reset mode due to power failure, etc.
In this case, preset the FV once again.

2 Self-recorded tape is a cassette whose program was recorded by the unit being adjusted.

5-3 CHECKING OF OFF TRACK

Measuring instrument	Color TV monitor
Mode	Playback
Cassette	Self-recorded tape (EP mode) (See Note below)
Control	Tracking control buttons(+) or (–)
Specification	No Poor picture and Hi-Fi sound

1. Play a cassette which was recorded by the unit in EP mode.
2. Short circuit between TP801 and TP803 on the main PWB, and press both CH button (+) and CH button (–) at same time.
3. Press the tracking buttons (+) or (–) 20 times each to bring the tracking off center. Make sure that:
   1) There is nothing unusual on the playback screen.
   2) There is nothing unusual in the Hi-Fi sound (for the Hi-Fi models only).
4. Cancel the short circuit.

Note:

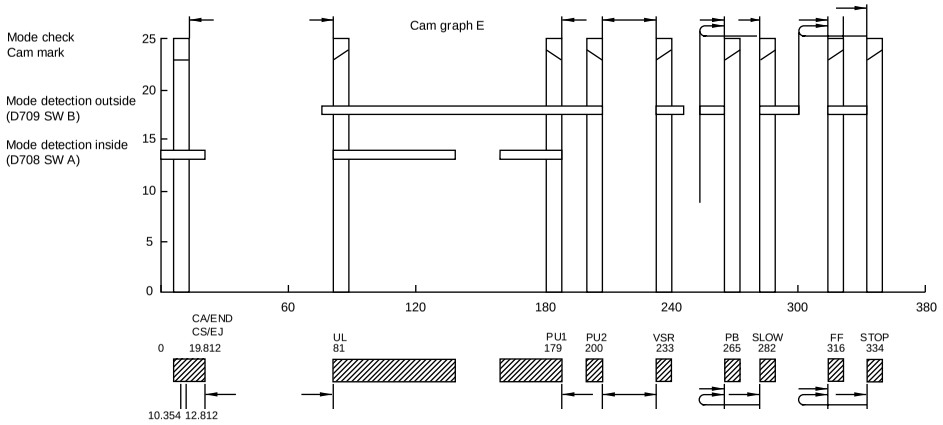
Self-recorded tape is a cassette whose program was recorded by the unit being adjusted.

6. MECHANISM OPERATION FLOWCHART AND TROUBLESHOOTING GUIDE

MECHANISM OPERATION FLOWCHART

* This flowchart describes the outline of the mechanism's operation, but does not give its details.

G mechanical timing

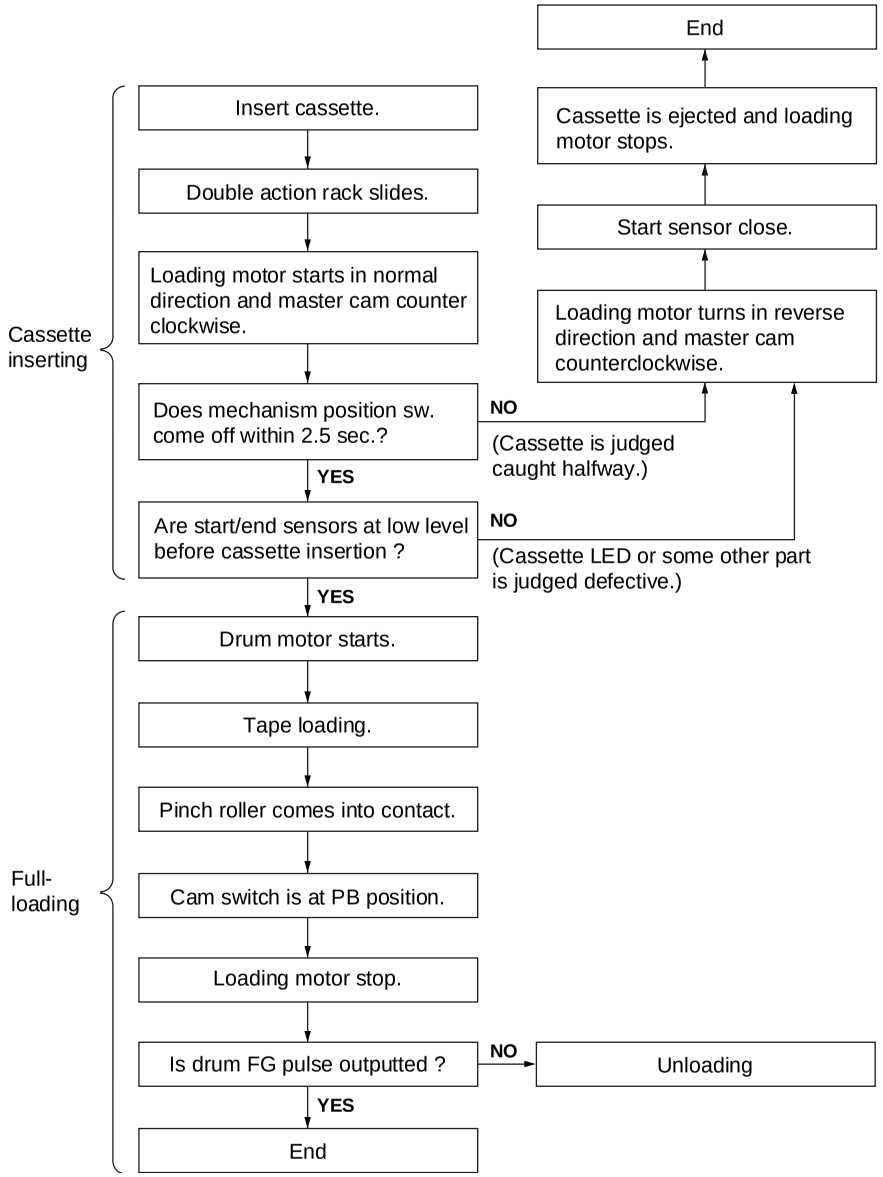


	EJ					UL				PU		PU2		VSR				PB		SLW			FF		STP	
Mode detection outside	0	0	0	0	0	1	1	1	1	1	1	1	0	1	1	0	1	0	0	1	1	0	1	1	0
Mode detection inside	1	1	0	0	0	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S sensor	1	1	0	1	1 or 0																				

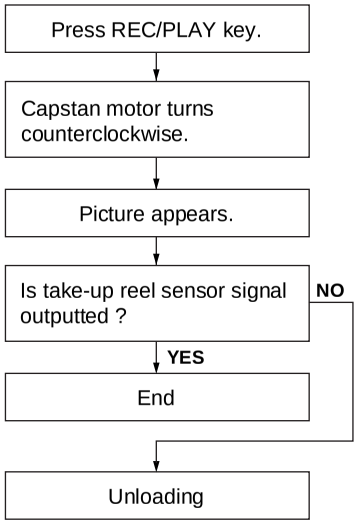
S sensor Open / Close

	Mode detection inside sensor A	Mode detection outside sensor B
CS/EJ	1	0
ULD	1	1
PU1	1	1
PU2	0	1
VSR	0	1
PB	0	0
SLOW	0	1
FF	0	1
STOP	0	0

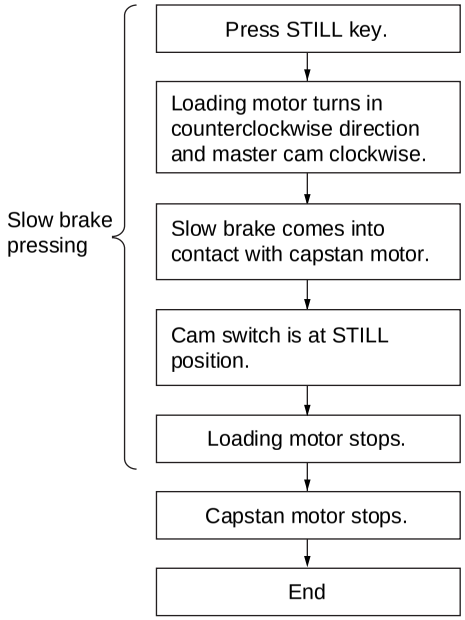
CASSETTE INSERTION → STOP



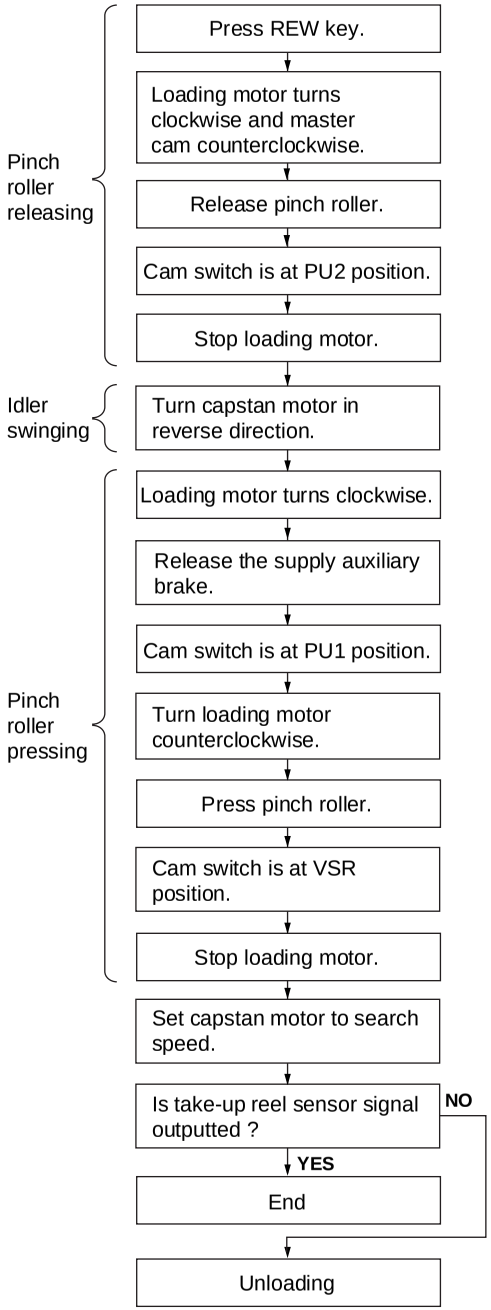
STOP → REC/PLAY



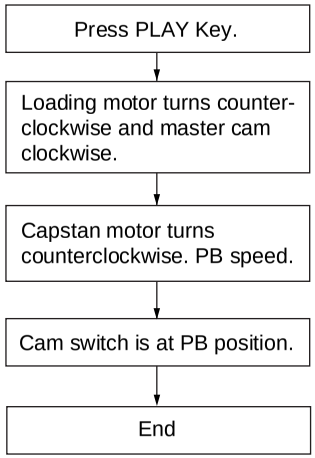
PLAY → STILL



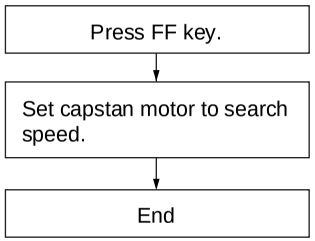
PLAY → VSR



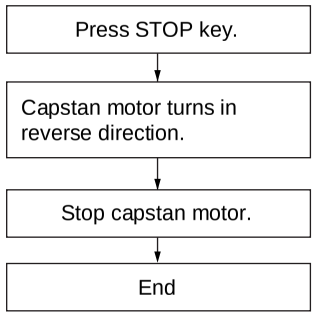
VSR → PLAY

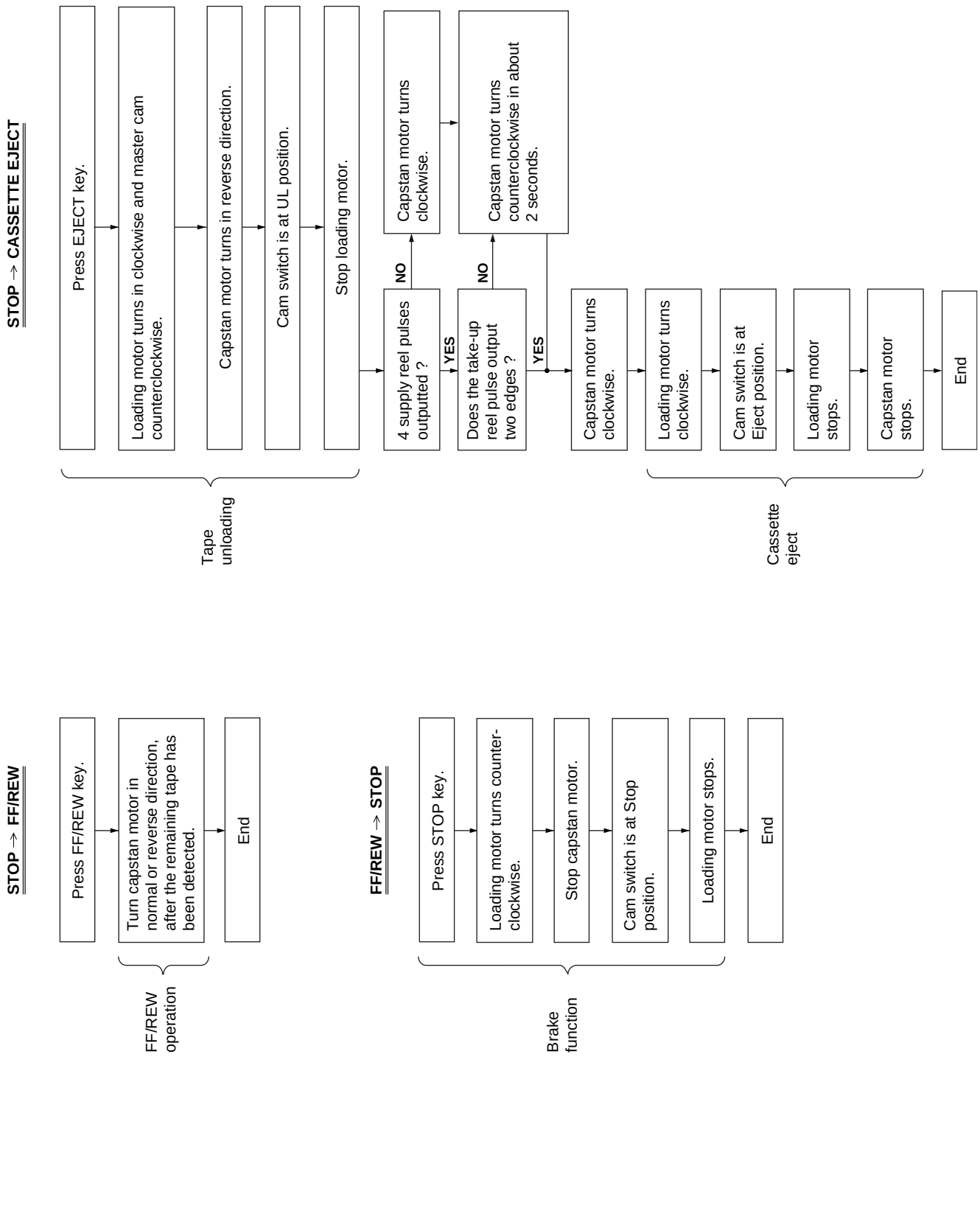


PLAY → VSF



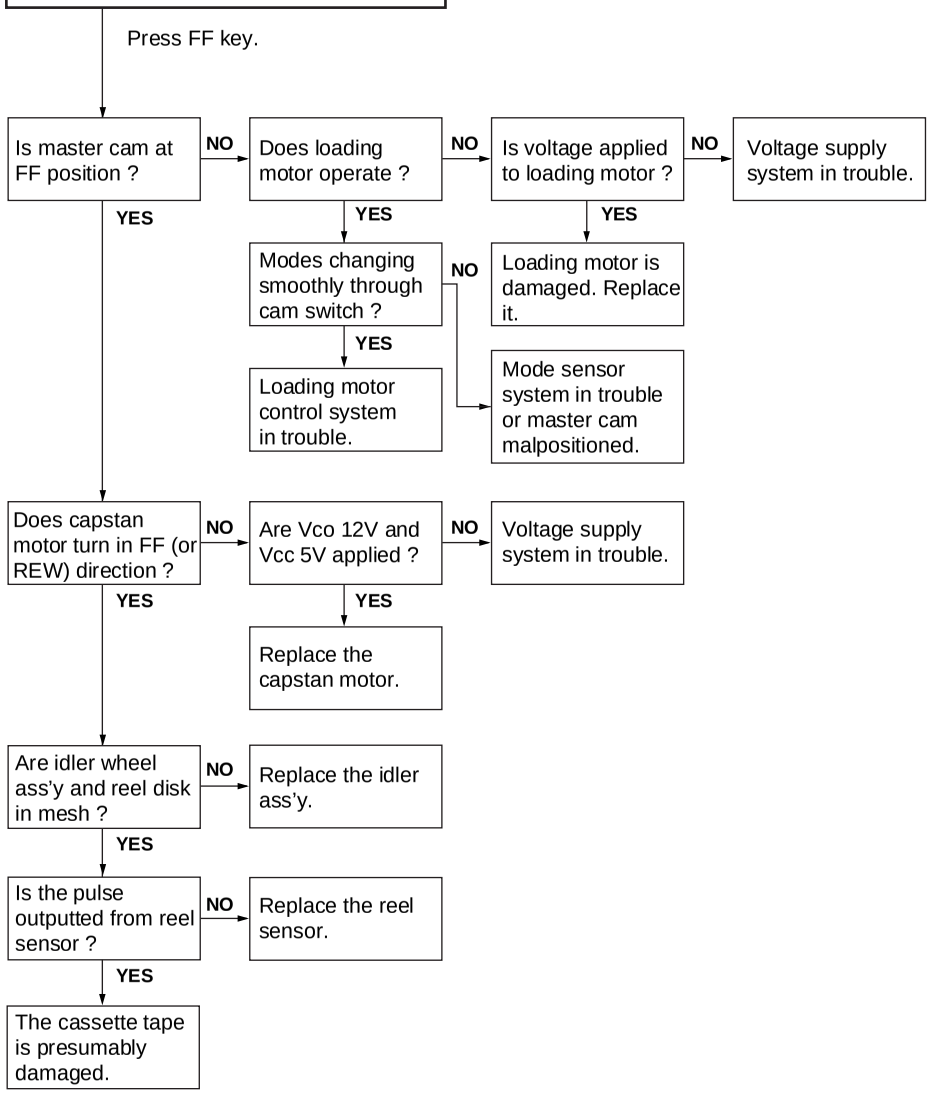
REC/PLAY → STOP



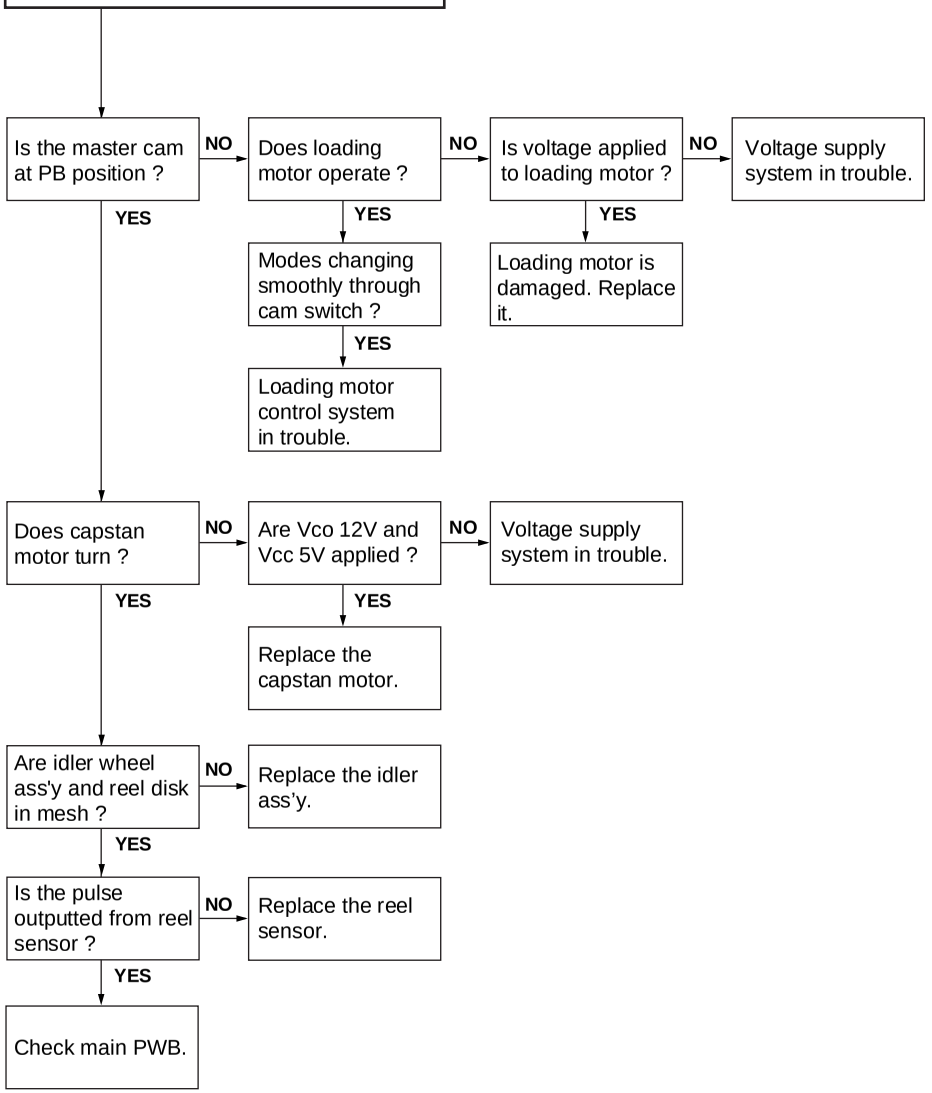

STOP → CASSETTE EJECT
Press EJECT key.
Loading motor turns in clockwise and master cam counterclockwise.
Capstan motor turns in reverse direction.
Cam switch is at UL position.
Stop loading motor.
4 supply reel pulses outputted ?
NO
Capstan motor turns clockwise.
YES
Does the take-up reel pulse output two edges ?
NO
Capstan motor turns counterclockwise in about 2 seconds.
YES
Capstan motor turns clockwise.
Loading motor turns clockwise.
Cam switch is at Eject position.
Loading motor stops.
Capstan motor stops.
End
Tape unloading
Cassette eject
STOP → FF/REW
Press FF/REW key.
Turn capstan motor in normal or reverse direction, after the remaining tape has been detected.
End
FF/REW operation
FF/REW → STOP
Press STOP key.
Loading motor turns counter-clockwise.
Stop capstan motor.
Cam switch is at Stop position.
Loading motor stops.
End
Brake function

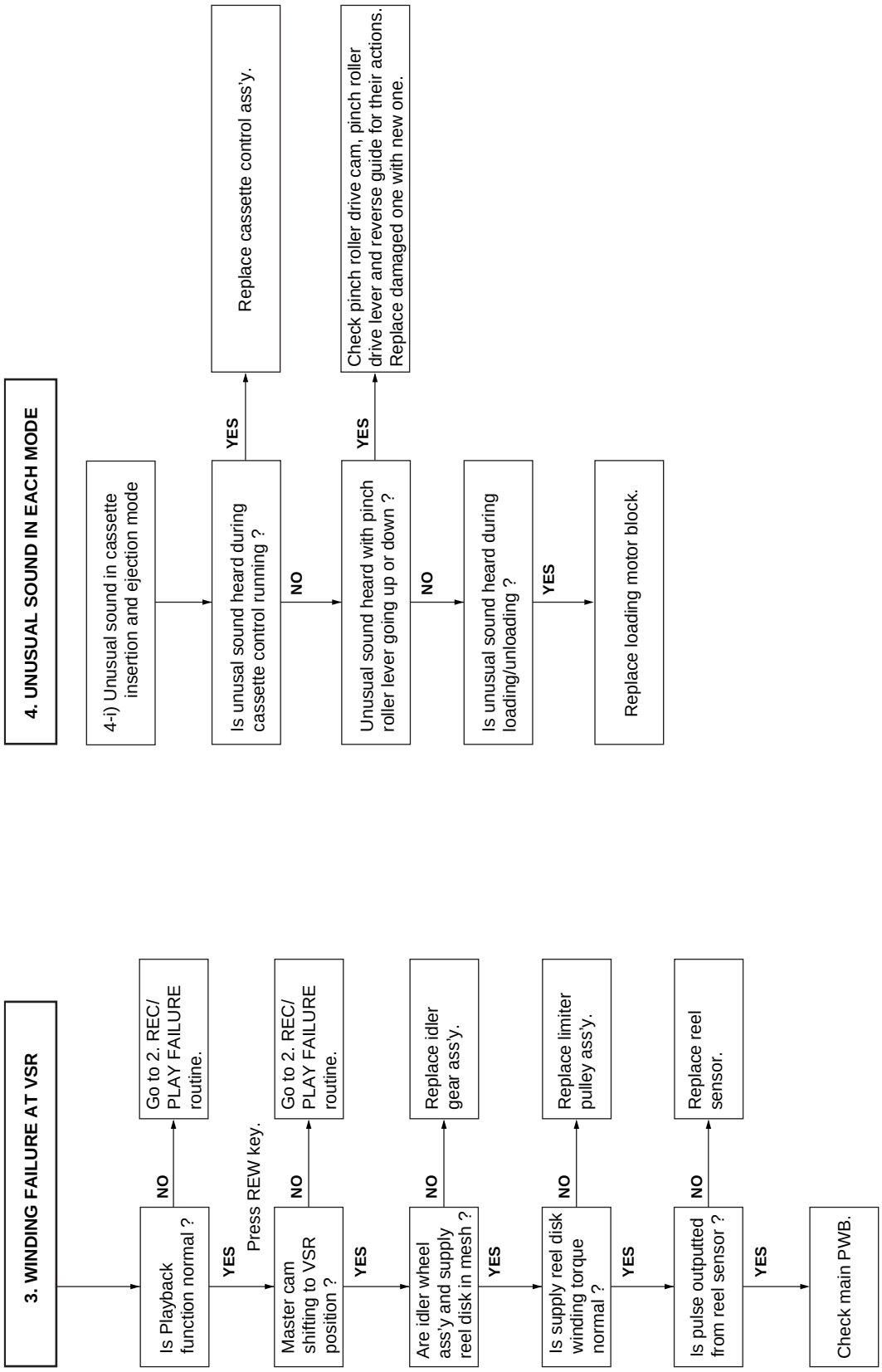
MECHANISM TROUBLESHOOTING

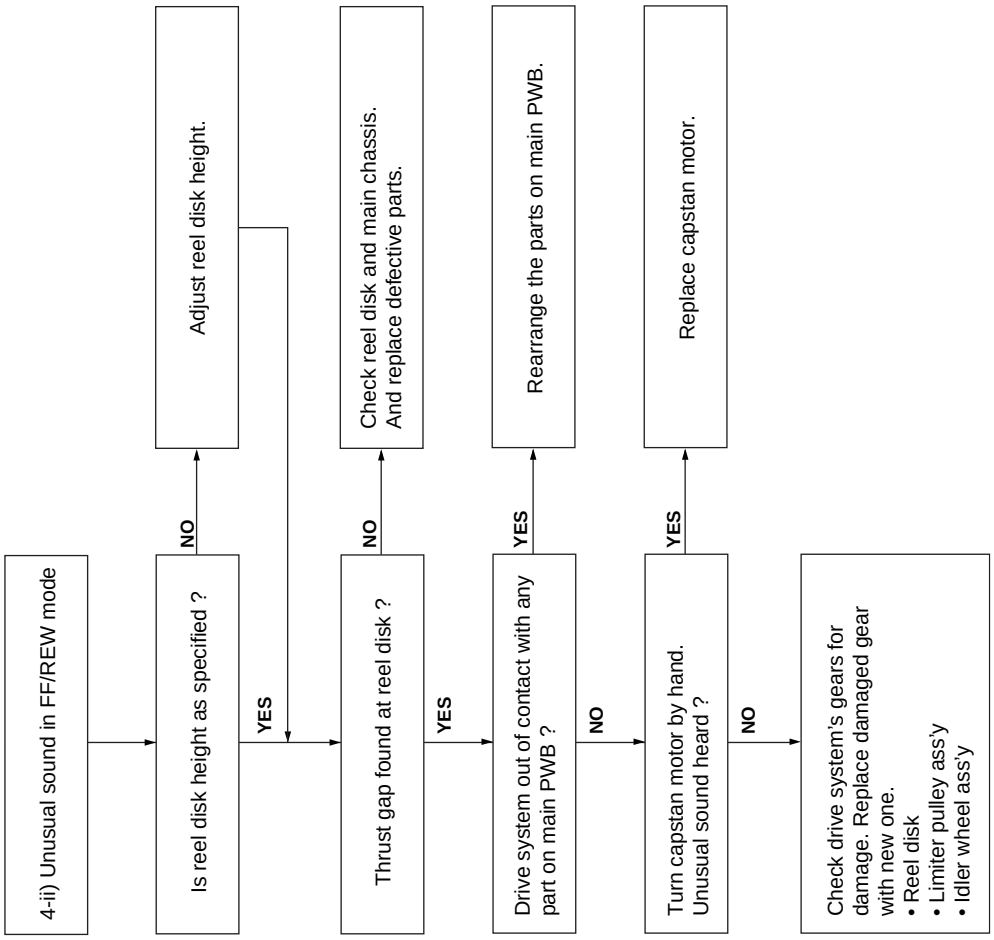
1. FF/REW FAILURE (NO TAPE WINDING)



2. REC/PLAY FAILURE (MODE RELEASE)

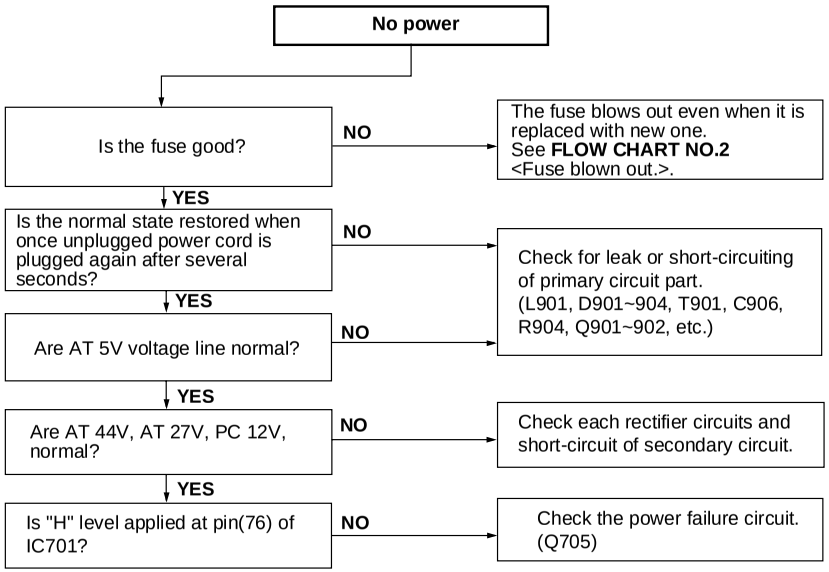



3. WINDING FAILURE AT VSR
Is Playback function normal ?
NO
Go to 2. REC/ PLAY FAILURE routine.
YES
Press REW key.
Master cam shifting to VSR position ?
NO
Go to 2. REC/ PLAY FAILURE routine.
YES
Are idler wheel ass'y and supply reel disk in mesh ?
NO
Replace idler gear ass'y.
YES
Is supply reel disk winding torque normal ?
NO
Replace limiter pulley ass'y.
YES
Is pulse outputted from reel sensor ?
NO
Replace reel sensor.
YES
Check main PWB.
4. UNUSUAL SOUND IN EACH MODE
4-i) Unusual sound in cassette insertion and ejection mode
Is unusal sound heard during cassette control running ?
YES
Replace cassette control ass'y.
NO
Unusual sound heard with pinch roller lever going up or down ?
YES
Check pinch roller drive cam, pinch roller drive lever and reverse guide for their actions. Replace damaged one with new one.
NO
Is unusual sound heard during loading/unloading ?
YES
Replace loading motor block.

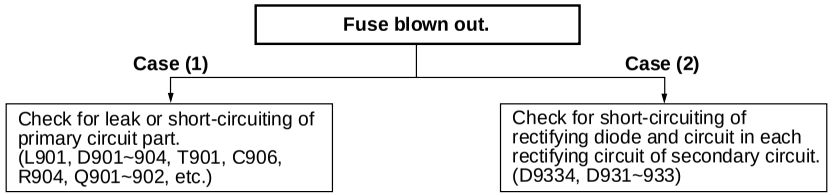

4-ii) Unusual sound in FF/REW mode
Is reel disk height as specified ?
NO
Adjust reel disk height.
YES
Thrust gap found at reel disk ?
NO
Check reel disk and main chassis.
And replace defective parts.
YES
Drive system out of contact with any part on main PWB ?
YES
Rearrange the parts on main PWB.
NO
Turn capstan motor by hand.
Unusual sound heard ?
YES
Replace capstan motor.
NO
Check drive system's gears for damage. Replace damaged gear with new one.
• Reel disk
• Limiter pulley ass'y
• Idler wheel ass'y

7. TROUBLESHOOTING

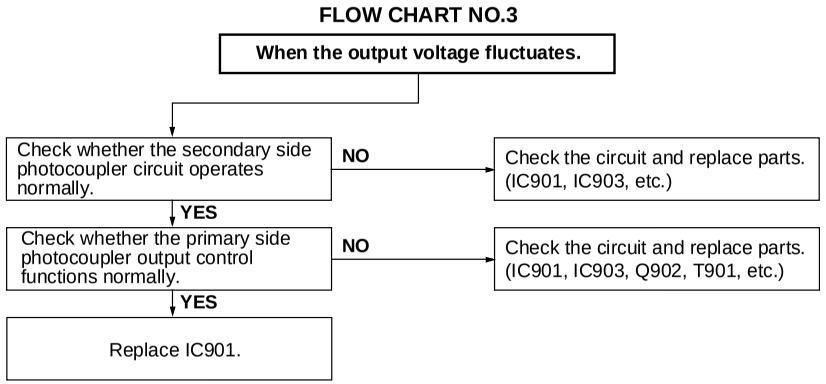
FLOW CHART NO.1



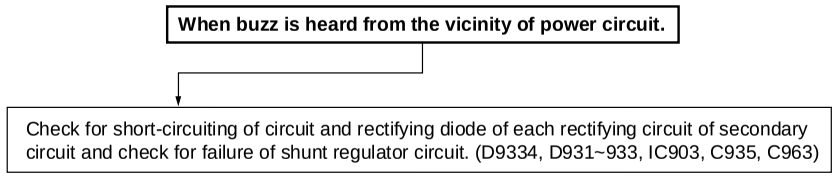
FLOW CHART NO.2



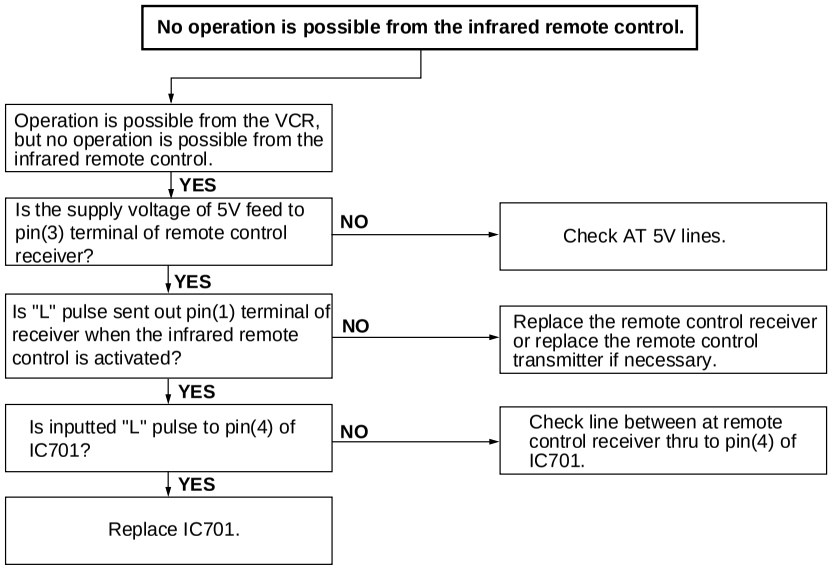
FLOW CHART NO.3



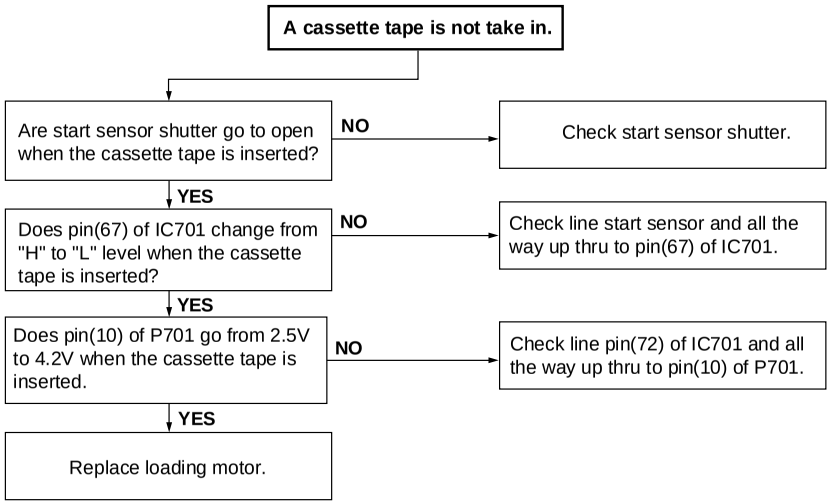
FLOW CHART NO.4



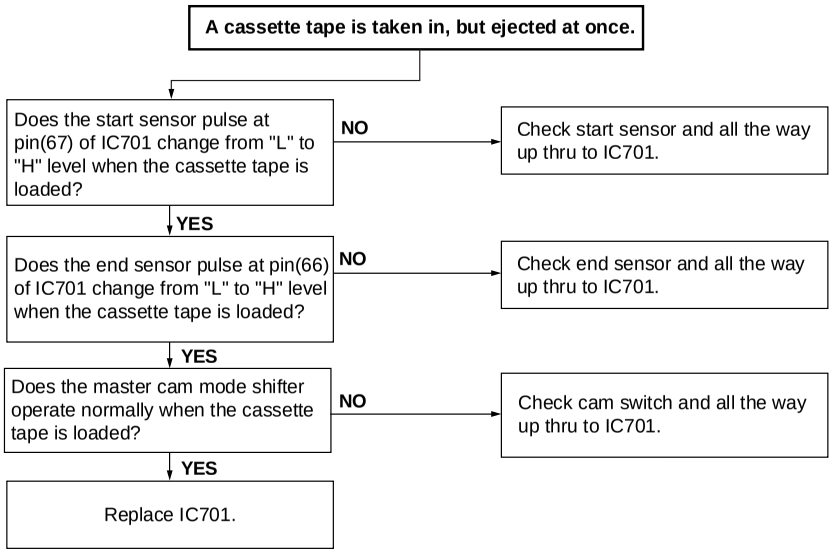
FLOW CHART NO.6



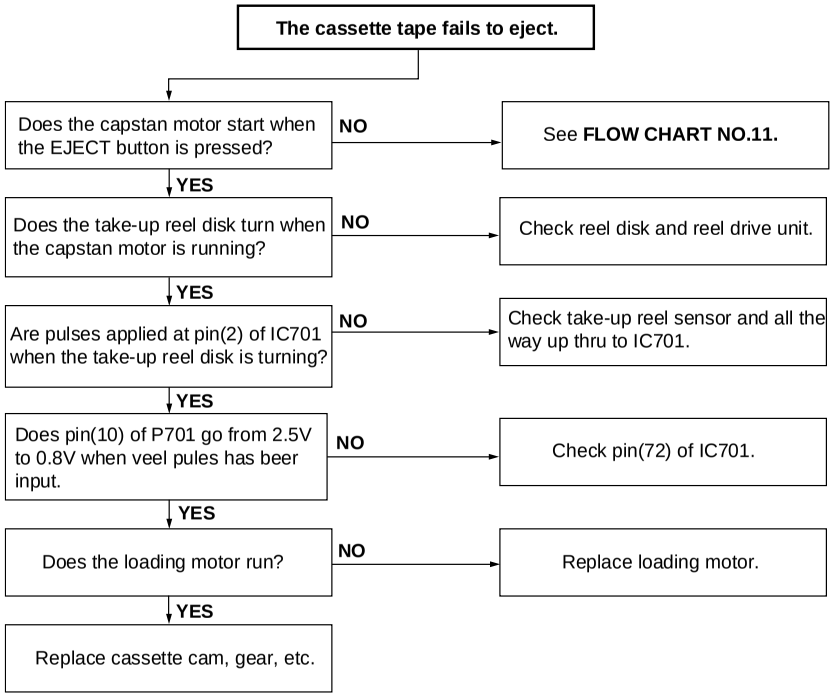
FLOW CHART NO.7



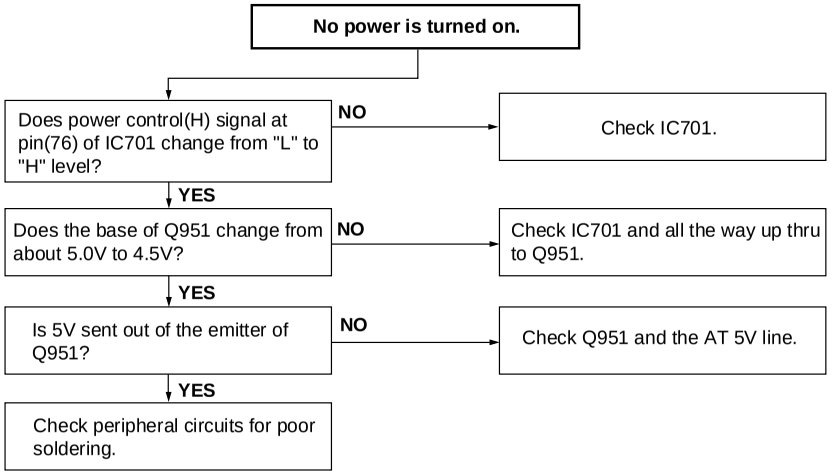
FLOW CHART NO.8



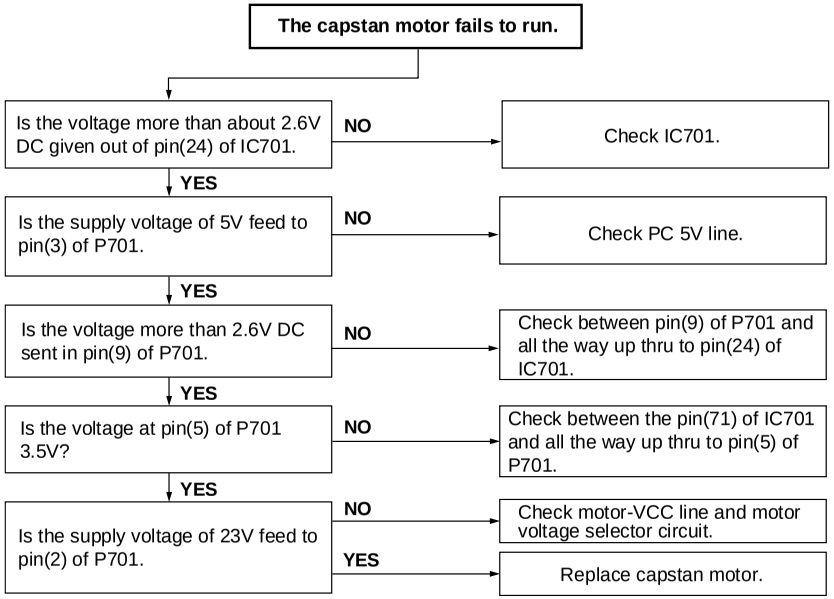
FLOW CHART NO.9



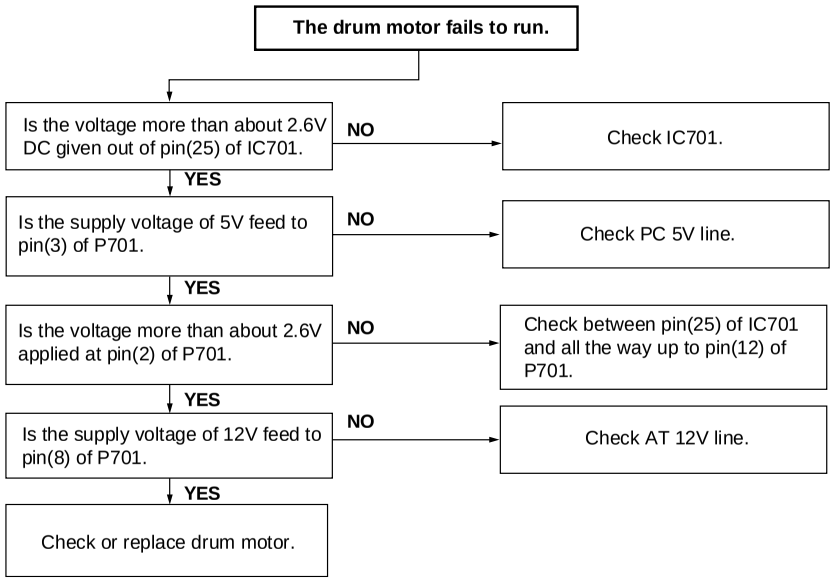
FLOW CHART NO.10



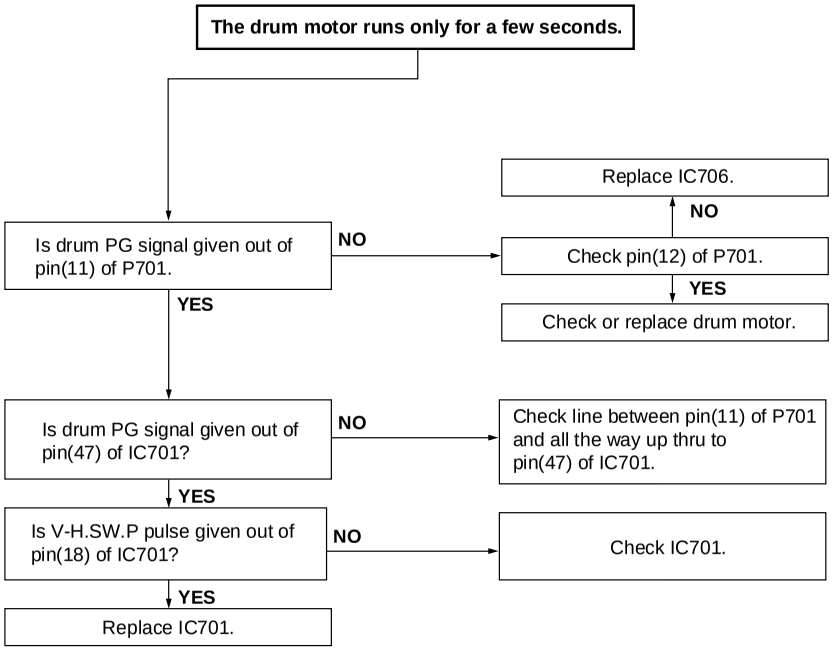
FLOW CHART NO.11



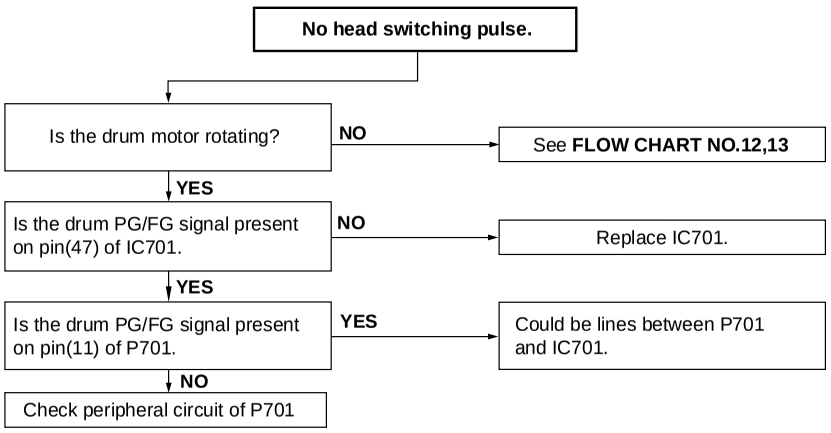
FLOW CHART NO.12



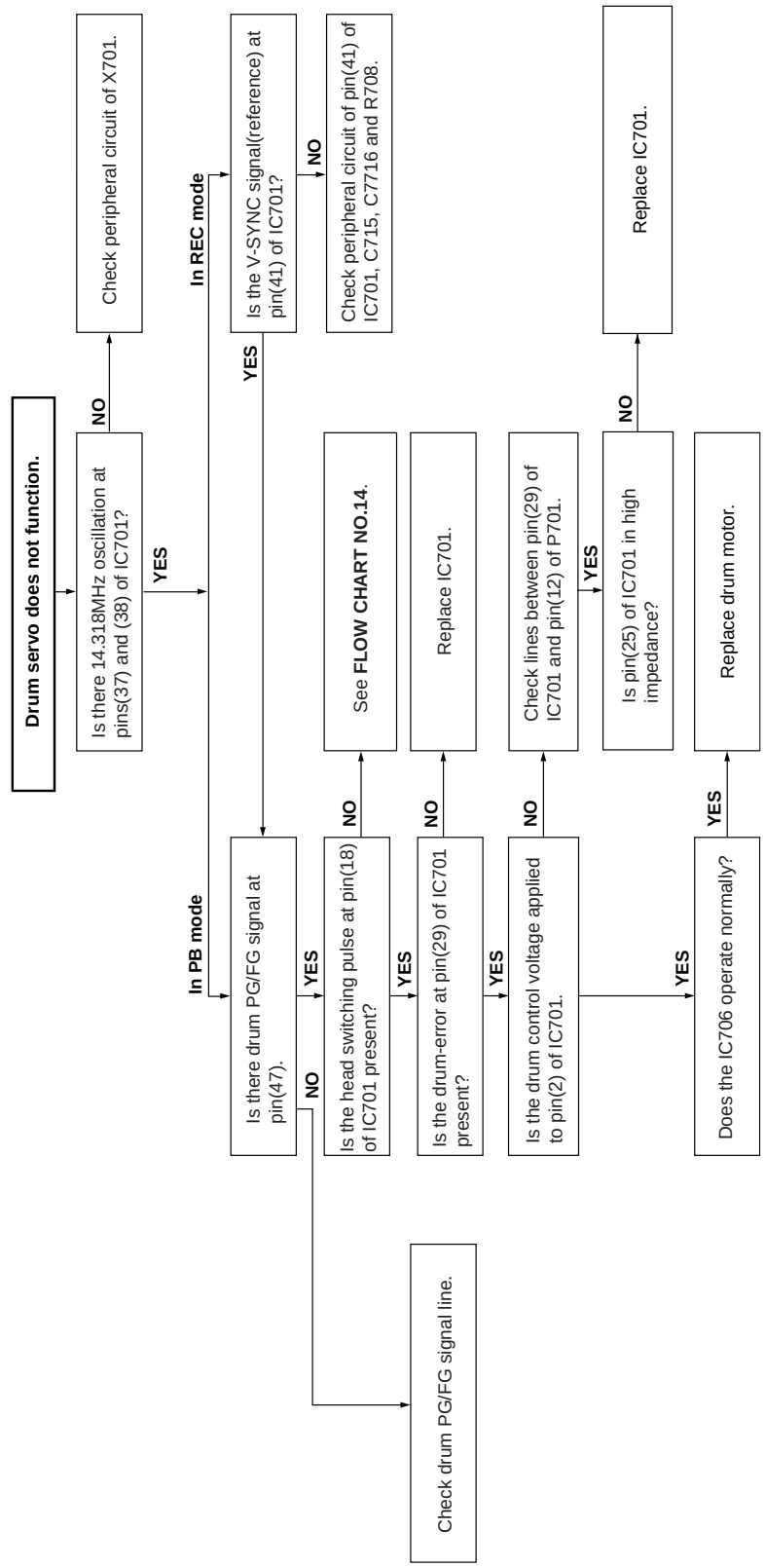
FLOW CHART NO.13

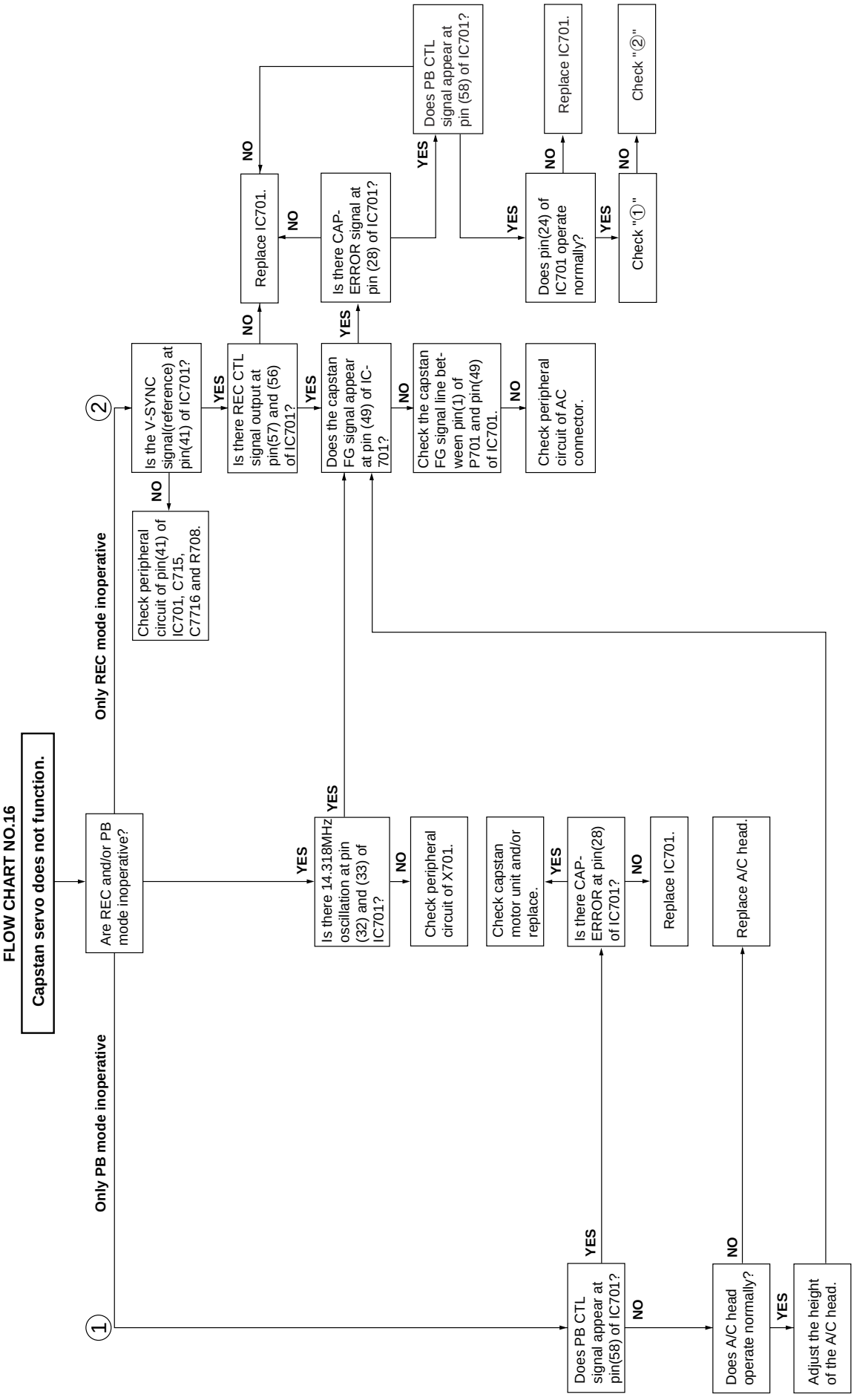


FLOW CHART NO.14

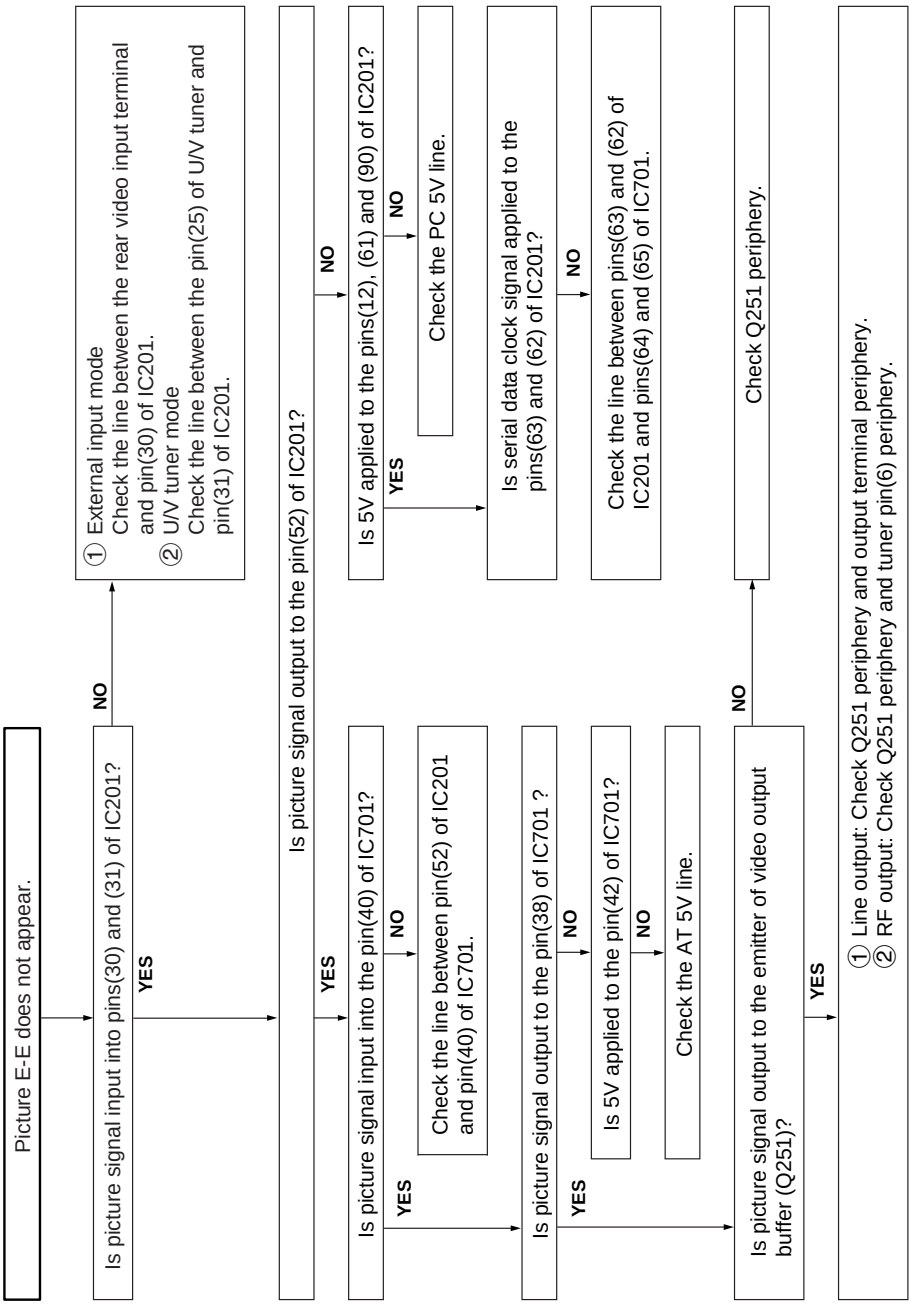


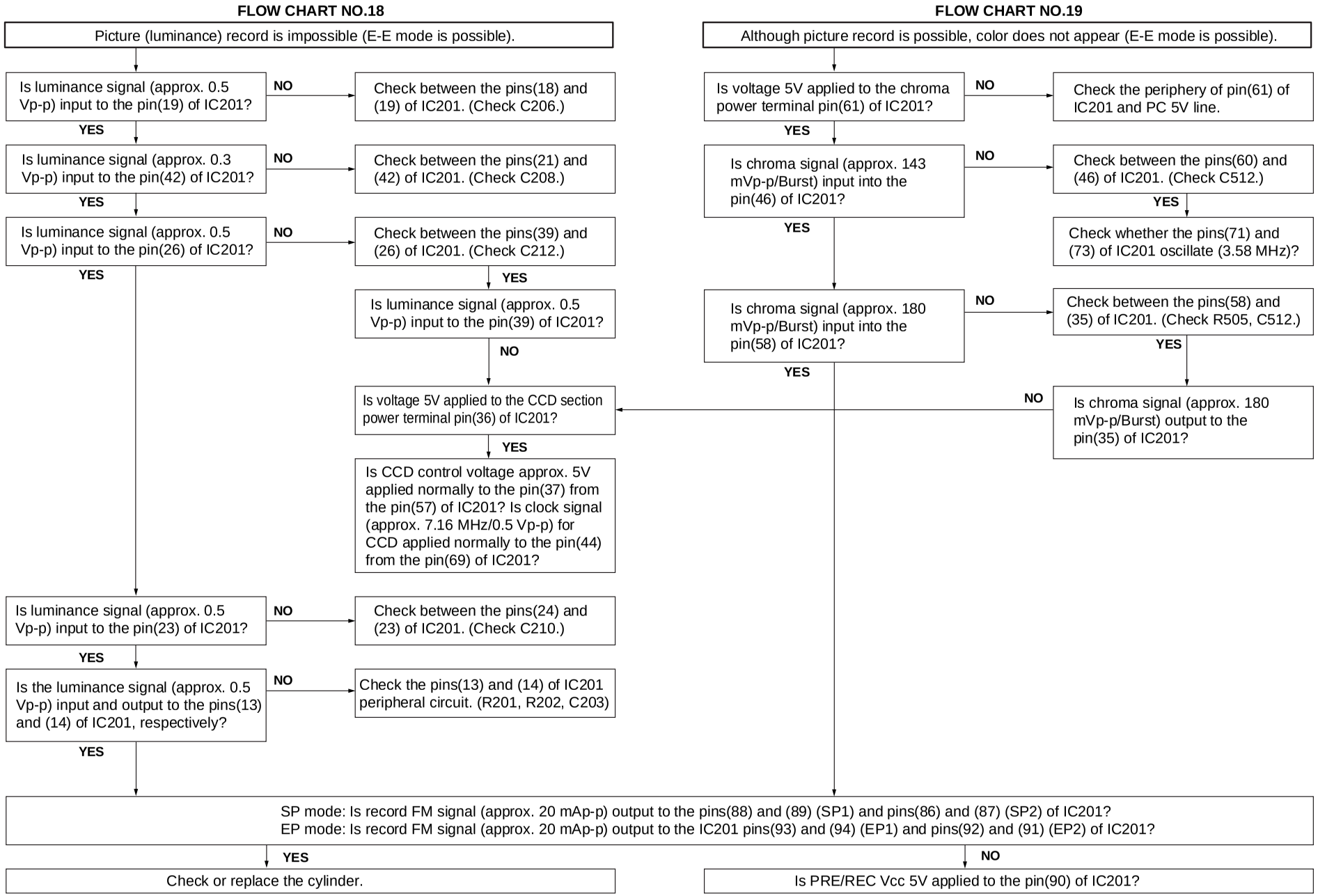
FLOW CHART NO.15




FLOW CHART NO.16
Capstan servo does not function.
Are REC and/or PB mode inoperative?
Only PB mode inoperative
Only REC mode inoperative
1
2
Is the V-SYNC signal(reference) at pin(41) of IC701?
NO
YES
Check peripheral circuit of pin(41) of IC701, C715, C7716 and R708.
Is there REC CTL signal output at pin(57) and (56) of IC701?
NO
YES
Replace IC701.
NO
Is there CAP-ERROR signal at pin (28) of IC701?
YES
Does PB CTL signal appear at pin (58) of IC701?
YES
Does pin(24) of IC701 operate normally?
NO
YES
Replace IC701.
Check "①"
NO
Check "②"
Does the capstan FG signal appear at pin (49) of IC-701?
YES
NO
Check the capstan FG signal line between pin(1) of P701 and pin(49) of IC701.
Check peripheral circuit of AC connector.
Is there 14.318MHz oscillation at pin (32) and (33) of IC701?
YES
NO
Check peripheral circuit of X701.
Check capstan motor unit and/or replace.
Is there CAP-ERROR at pin(28) of IC701?
YES
NO
Replace IC701.
Does PB CTL signal appear at pin(58) of IC701?
YES
NO
Replace A/C head.
Does A/C head operate normally?
NO
YES
Adjust the height of the A/C head.

FLOW CHART NO.17




FLOW CHART NO.18
Picture (luminance) record is impossible (E-E mode is possible).
Is luminance signal (approx. 0.5 Vp-p) input to the pin(19) of IC201?
NO
Check between the pins(18) and (19) of IC201. (Check C206.)
YES
Is luminance signal (approx. 0.3 Vp-p) input to the pin(42) of IC201?
NO
Check between the pins(21) and (42) of IC201. (Check C208.)
YES
Is luminance signal (approx. 0.5 Vp-p) input to the pin(26) of IC201?
NO
Check between the pins(39) and (26) of IC201. (Check C212.)
YES
YES
Is luminance signal (approx. 0.5 Vp-p) input to the pin(39) of IC201?
NO
Is voltage 5V applied to the CCD section power terminal pin(36) of IC201?
YES
Is CCD control voltage approx. 5V applied normally to the pin(37) from the pin(57) of IC201? Is clock signal (approx. 7.16 MHz/0.5 Vp-p) for CCD applied normally to the pin(44) from the pin(69) of IC201?
Is luminance signal (approx. 0.5 Vp-p) input to the pin(23) of IC201?
NO
Check between the pins(24) and (23) of IC201. (Check C210.)
YES
Is the luminance signal (approx. 0.5 Vp-p) input and output to the pins(13) and (14) of IC201, respectively?
NO
Check the pins(13) and (14) of IC201 peripheral circuit. (R201, R202, C203)
YES
FLOW CHART NO.19
Although picture record is possible, color does not appear (E-E mode is possible).
Is voltage 5V applied to the chroma power terminal pin(61) of IC201?
NO
Check the periphery of pin(61) of IC201 and PC 5V line.
YES
Is chroma signal (approx. 143 mVp-p/Burst) input into the pin(46) of IC201?
NO
Check between the pins(60) and (46) of IC201. (Check C512.)
YES
YES
Check whether the pins(71) and (73) of IC201 oscillate (3.58 MHz)?
Is chroma signal (approx. 180 mVp-p/Burst) input into the pin(58) of IC201?
NO
Check between the pins(58) and (35) of IC201. (Check R505, C512.)
YES
YES
NO
Is chroma signal (approx. 180 mVp-p/Burst) output to the pin(35) of IC201?
SP mode: Is record FM signal (approx. 20 mAp-p) output to the pins(88) and (89) (SP1) and pins(86) and (87) (SP2) of IC201?
EP mode: Is record FM signal (approx. 20 mAp-p) output to the IC201 pins(93) and (94) (EP1) and pins(92) and (91) (EP2) of IC201?
YES
NO
Check or replace the cylinder.
Is PRE/REC Vcc 5V applied to the pin(90) of IC201?

FLOW CHART NO.20

Playback picture does not appear (E-E mode is possible).

Is FM signal (approx. 0.4 Vp-p) input to the pin(78) of IC201?
- NO → Check between the pins(79) and (78) of IC201.
- YES

Check between the pins(79) and (78) of IC201.
- YES → Is luminance signal (approx. 0.4 Vp-p) input to the pin(79) of IC201?

Is luminance signal (approx. 0.4 Vp-p) input to the pin(79) of IC201?
- NO → Is V-H.SW.P. applied to the pin(81) of IC201?

Is V-H.SW.P. applied to the pin(81) of IC201?
- NO → Check V-H.SW.P. line.

Is the luminance signal (approx. 0.25 Vp-p) input and output to the pins(13), (14) and (16) of IC201, respectively?
- NO → Check the periphery of pins(13), (14) and (16) of IC201. (Check C203, R201-2, L201, C205, R203.)
- YES

Is luminance signal (approx. 0.5 Vp-p) input to the pin(19) of IC201?
- NO → Check between the pin(18) and pin(19) of IC201. (Check C206.)
- YES

Is luminance signal (approx. 0.5 Vp-p) input to the pin(42) of IC201?
- NO → Check between the pin(21) and pin(42) of IC201. (Check C208.)
- YES

Is luminance signal (approx. 0.5 Vp-p) input to the pin(26) of IC201?
- NO → Check between the pin(39) and pin(26) of IC201. (Check C212.)
- YES

Is luminance signal (approx. 0.5 Vp-p) input to the pin(39) of IC201?
- NO → Is voltage 5V applied to the CCD section power terminal pin(36) of IC201?
- YES → Is control voltage approx. 5V applied normally to the pin(37) from the pin(57) of IC201? Is CCD clock signal (approx. 7.16 MHz/0.5 Vp-p) applied to the pin(44) from the pin(69) of IC201?

Is luminance signal (approx. 0.5 Vp-p) input to the pin(23) of IC201?
- NO → Check between the pins(24) and (23) of IC201. (Check C210.)
- YES → Replace IC201.

FLOW CHART NO.21

Although picture is played back, color does not appear (E-E mode is possible).

Is voltage 5V applied to the chroma power terminal pin(61) of IC201?
- NO → Check the periphery of pin(61) of IC201 and PC 5V line.
- YES

Is chroma signal (approx. 403 mVp-p/Burst) input into the pin(46) of IC201?
- NO → Check between the pin(60) and pin(46) of IC201. (Check C512.)
- YES → Check whether the pin(71) and pin(73) of IC201 oscillate (3.58 MHz)?
- YES

Is chroma signal (approx. 508 mVp-p/Burst) input into the pin(58) of IC201?
- NO → Check between the pin(58) and pin(35) of IC201. (Check R505, C515.)
- YES → Is chroma signal (approx. 508 mVp-p/Burst) output to the pin(35) of IC201?
- NO → Is voltage 5V applied to the CCD section power terminal pin(36) of IC201?
- YES

Is chroma signal (approx. 286 mVp-p/Burst) input into the pin(54) of IC201?
- YES → Replace IC201.
- NO → Check between the pin(55) and pin(54) of IC201. (Check C514.)

FLOW CHART NO.22

No Hi-Fi E-E sound heard.

Is there signal inputted at each terminal of IC651 as shown in table?

	L-ch	R-ch	
Front input terminal	pin(15)	pin(10)	NO → Check the peripheral circuit of front input terminal.
Rear input terminal	pin(14)	pin(9)	NO → Check the peripheral circuit of rear input terminal.
Tuner audio terminal	pin(48)		NO → Is there SIF signal from pin(24) of Tuner?

YES

Is the voltage 5V applied to pin(40) of IC651, 9V applied to pin(58).
NO → Check the regulator circuit of Hi-Fi 5V and PC 9V.

YES

Are serial data and clock signal at pins(43), (42) of IC651?
NO → Check line between pins(43), (42) of IC651 and pins(12), (13) of IC701.

YES

Is "L" level applied at pin(36) of IC651?
NO → Check line between pin(36) of IC651 and pin(61) of IC701.

YES

Is "H" level applied at pin(45) of IC651?
NO → Is Sub carrier signal (3.58MHz, about 900mVp-p) input to pin(45) of IC651?
NO → Check line between X501 and pin(45) of IC651.

YES

Line output terminal : Is there audio signal outputted at pins(53) and (57) of IC651?
RF output terminal : Is there audio signal outputted at pin(59) of IC651?

YES
NO → Replace IC651.

Line output terminal : Check line ranging from pins(53) and (57) of IC651 to the audio output terminal.
RF output terminal : Check line ranging from pin(59) of IC651 to pin(2) of tuner (TU101).

FLOW CHART NO.23

Hi-Fi sound cannot be recorded (E-E mode is normal).

Is terminal voltage (REC AGC. ADJ.) pin(37) of IC651 normal?
NO → Is the pin(29) of IC651 about 3.7V?
NO → Check Hi-Fi REC CTL line.
YES → Replace IC651.

Is record FM signal output to the pins(21) to (24) (ch-1)/pins(21) and (22) (ch-2) of IC651?
NO → Is voltage 5V applied to pin(25) of IC651.
NO → Check line of Hi-Fi 5V.
YES → Check the AH-MZ connector.

FLOW CHART NO.24

Hi-Fi sound cannot be played back (E-E mode is normal).

Is playback envelope signal output to the pins(29) and (30) of IC651? (300 mVp-p)
NO → Is A-H.SW.P input into the pin(27) of IC651?
NO → Check the A-H.SW.P. line from the pin(27) of IC651 to the pin(23) of IC701.
YES → Replace IC651.

FLOW CHART NO.25

Recording in linear audio is impossible (Hi-Fi E-E mode is normal).

Is audio signal input into the IC201 pin(8)?
NO → Check the line between the pin(61) of IC651 to the pin(8) of IC201.

YES

Is the pin(99) of IC201 in "L" level?
NO → Check the periphery of pin(99) of IC201.

YES

Does the bias oscillation circuit operate normally?
NO → Check the bias oscillation circuit (T601, Q602, Q603).

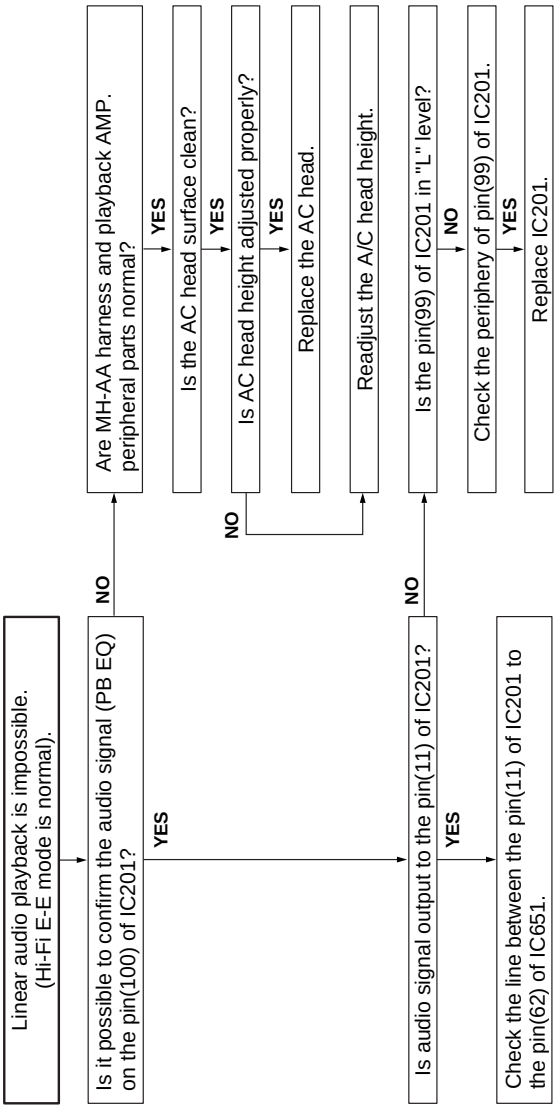
YES

Is audio signal on which bias signal is superposed output to the pin(4) of IC201?

YES

Check the AA-MH harness and A/C head.

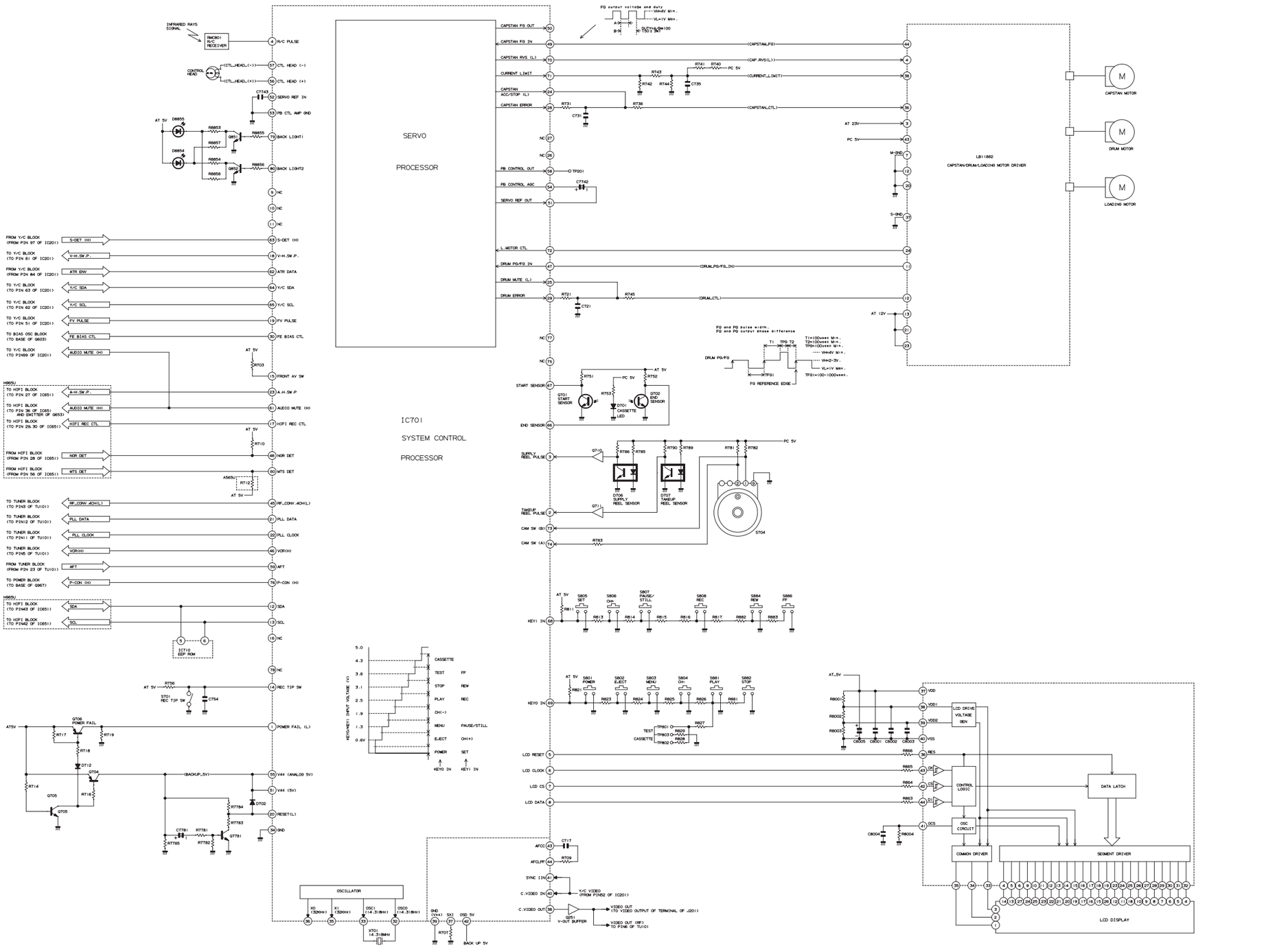
FLOW CHART NO.26



- M E M O -

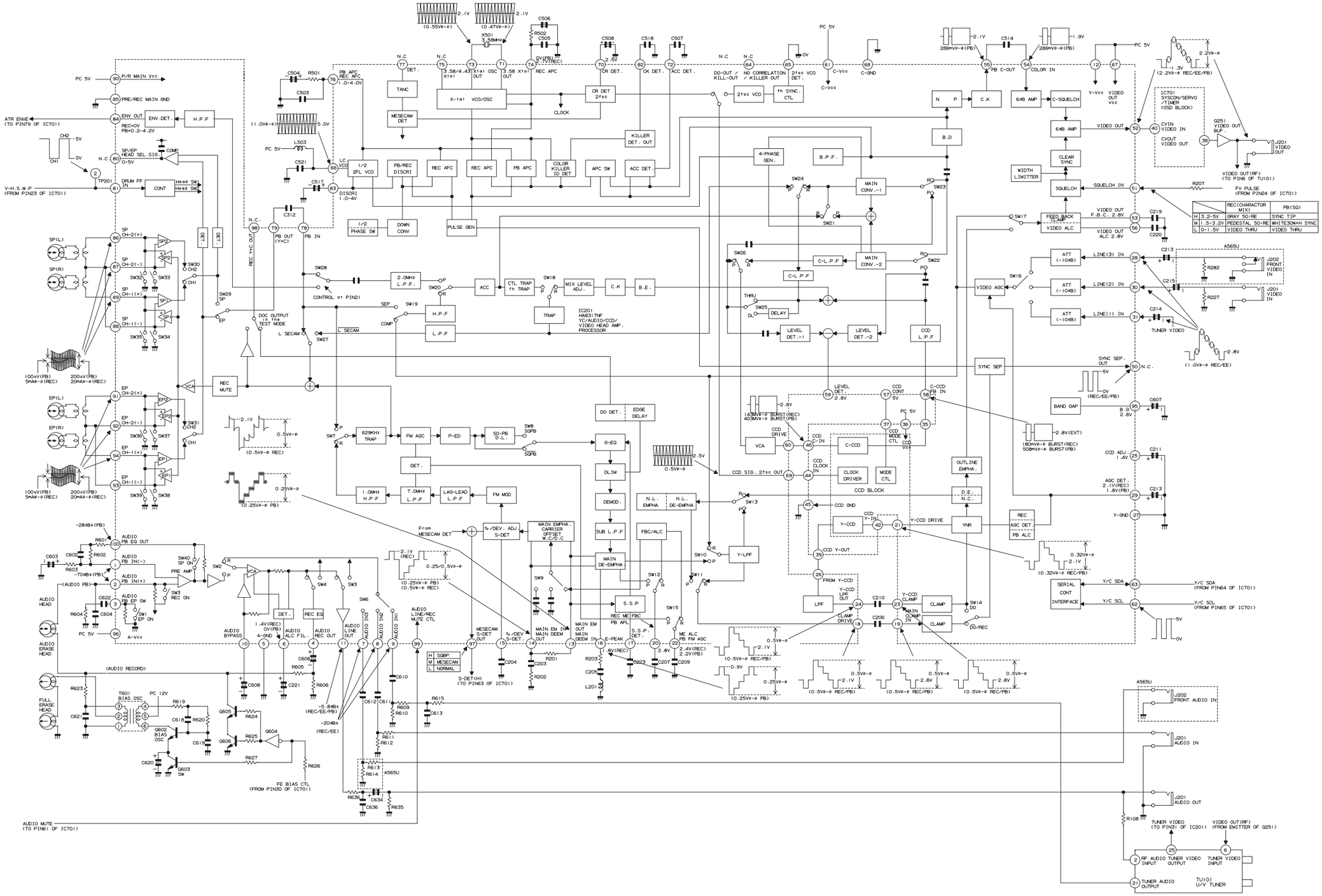
VC-A565U/H965U

8. BLOCK DIAGRAM
SYSTEM SERVO BLOCK DIAGRAM



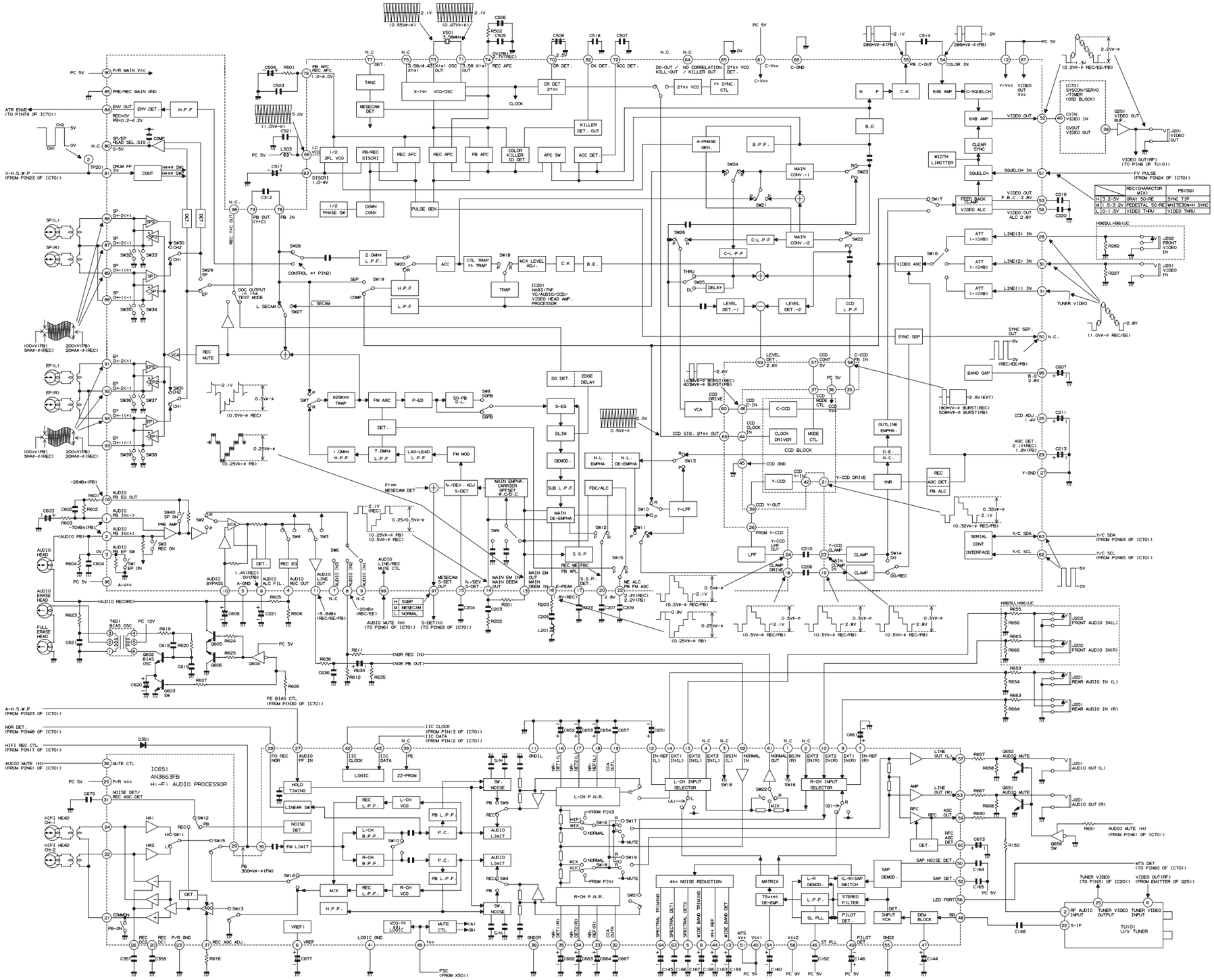
VC-A565U/H965U

SIGNAL FLOW BLOCK DIAGRAM(A565U)

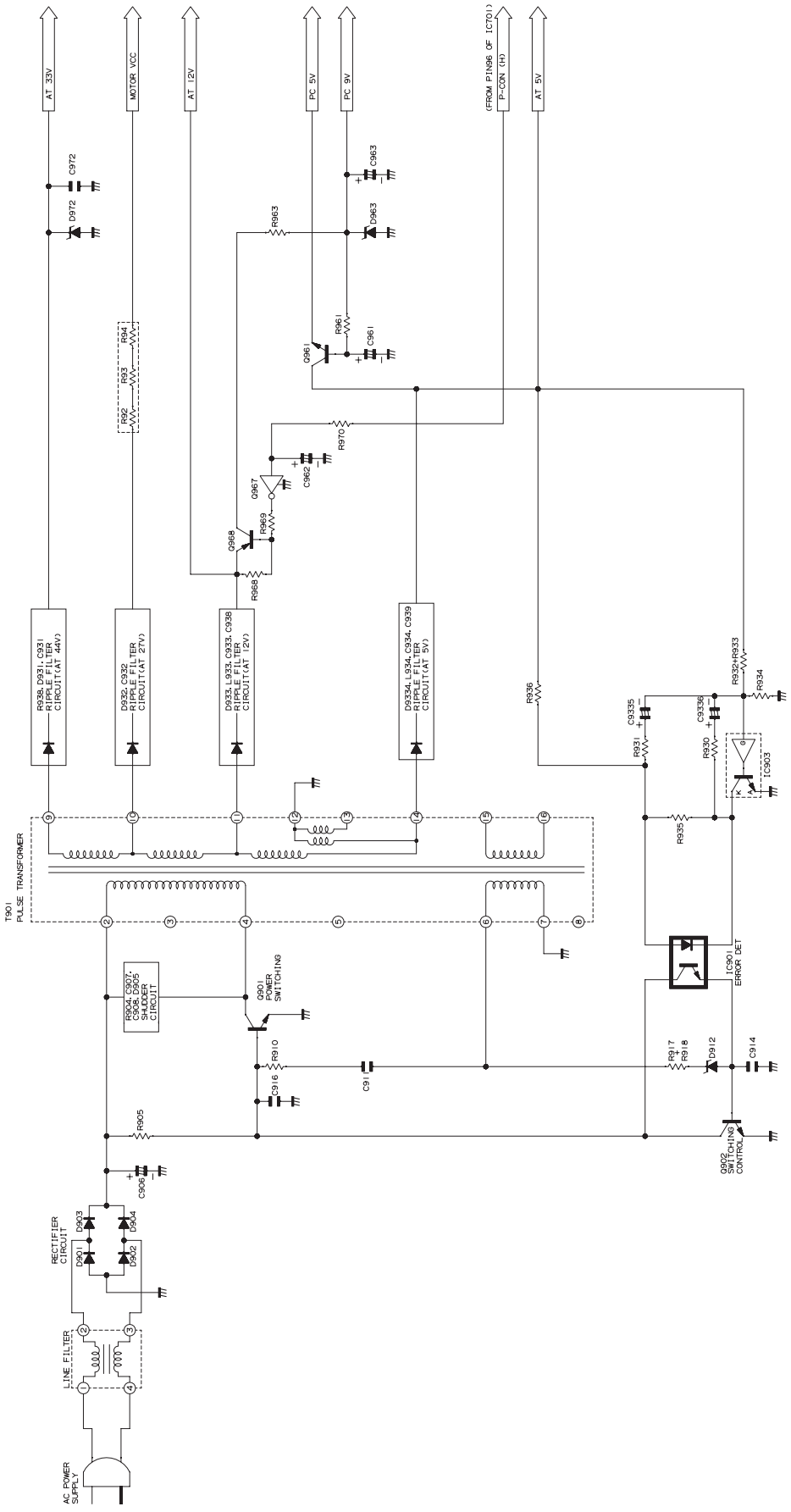


VC-A565U/H965U

SIGNAL FLOW BLOCK DIAGRAM(A965U)



POWER CIRCUIT BLOCK DIAGRAM



SCHEMATIC DIAGRAM

IMPORTANT SAFETY NOTICE:

PARTS MARKED WITH " ⚠ " (▭) ARE IMPORTANT FOR MAINTAINING THE SAFETY OF THE SET.
BE SURE TO REPLACE THESE PARTS WITH SPECIFIED ONES FOR MAINTAINING THE SAFETY AND PERFORMANCE OF THE SET.

AVIS DE SECURITE IMPORTANT:

LES PIECES MARQUEES " ⚠ " (▭) SONT IMPORTANTES POUR MAINTENIR LA SECURITE DE L'APPAREIL.
NE REMPLACER CES PIECES QUE PAR DES PIECES DONT LE NUMERO EST SPECIFIE POUR MAINTENIR LA SECURITE ET PROTEGER LE BON FONCTIONNEMENT DE L'APPAREIL.

- *The indicated voltages in the following diagram are measured with an SSVM, upon receiving color bars (400 Hz sound signal) in either the record mode or the play mode voltage is indicated as follows.*

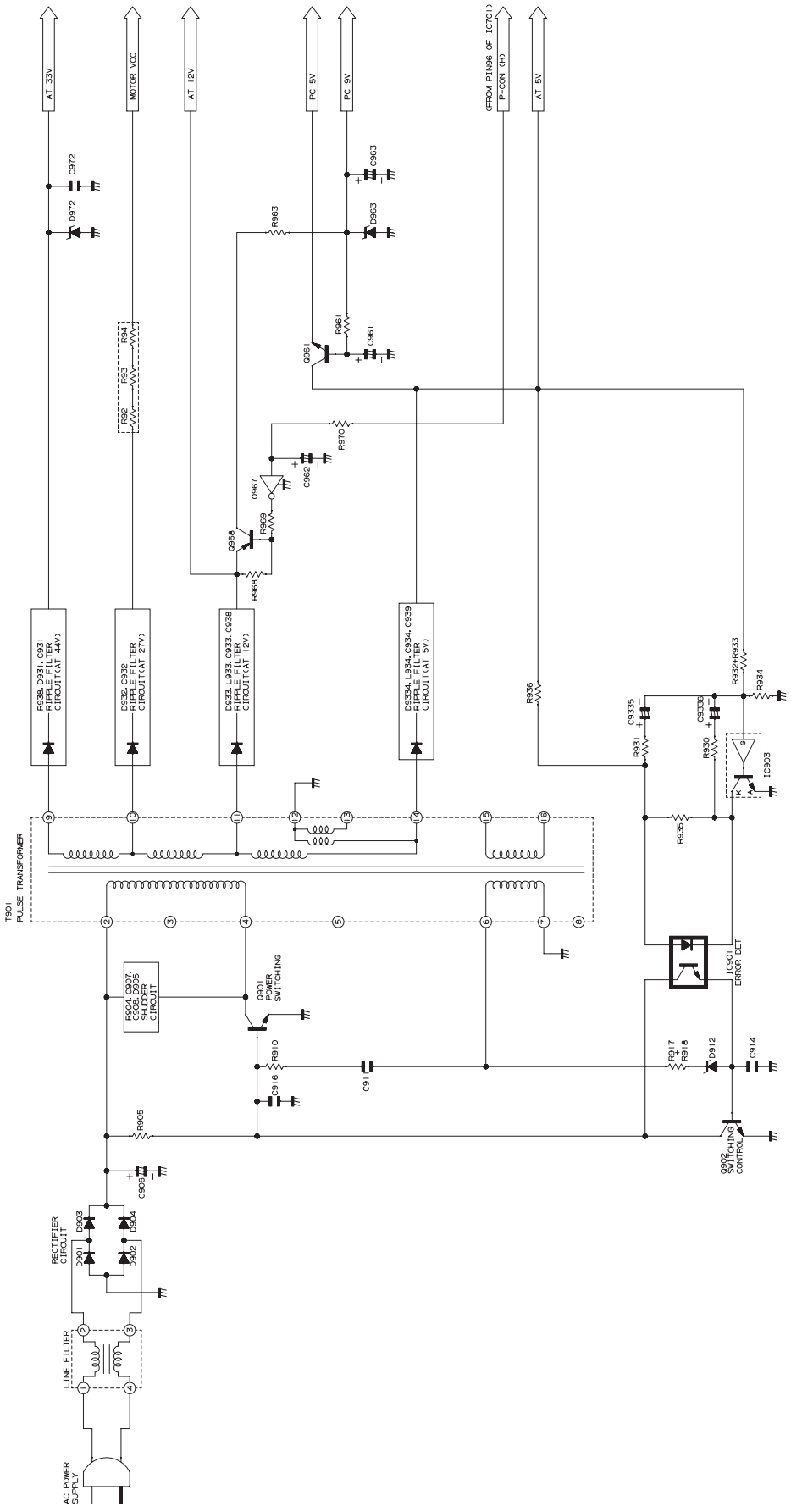
  4.0 . . . . Record mode (SP)
  (4.0) . . . . PB mode (SP)
  4.0 . . . . LP mode
  4.0 . . . . EP mode

NOTE:
1. *The unit of resistance "ohm" is omitted (K: 1000 ohms M: 1 Meg ohm).*
2. *All resistors are 1/8 watt, unless otherwise noted.*
3. *All capacitors μF, unless otherwise noted P: μμF.*

Voltages and waveform are measured as follows:
- *DC voltages are measured with an SSVM placed between points indicated and chassis ground, with the supply voltage of 120V AC and all controls for normal positions.*

This circuit diagram is a standard one, actual circuits printed may be subject to change for product improvement without prior notice.

POWER CIRCUIT BLOCK DIAGRAM



SCHEMATIC DIAGRAM

IMPORTANT SAFETY NOTICE:

PARTS MARKED WITH " ⚠ " (▭) ARE IMPORTANT FOR MAINTAINING THE SAFETY OF THE SET.
BE SURE TO REPLACE THESE PARTS WITH SPECIFIED ONES FOR MAINTAINING THE SAFETY AND PERFORMANCE OF THE SET.

AVIS DE SECURITE IMPORTANT:

LES PIECES MARQUEES " ⚠ " (▭) SONT IMPORTANTES POUR MAINTENIR LA SECURITE DE L'APPAREIL.
NE REMPLACER CES PIECES QUE PAR DES PIECES DONT LE NUMERO EST SPECIFIE POUR MAINTENIR LA SECURITE ET PROTEGER LE BON FONCTIONNEMENT DE L'APPAREIL.

- *The indicated voltages in the following diagram are measured with an SSVM, upon receiving color bars (400 Hz sound signal) in either the record mode or the play mode voltage is indicated as follows.*

  4.0 . . . . Record mode (SP)
  (4.0) . . . . PB mode (SP)
  4.0 . . . . LP mode
  4.0 . . . . EP mode

NOTE:
1. *The unit of resistance "ohm" is omitted (K: 1000 ohms M: 1 Meg ohm).*
2. *All resistors are 1/8 watt, unless otherwise noted.*
3. *All capacitors μF, unless otherwise noted P: μμF.*

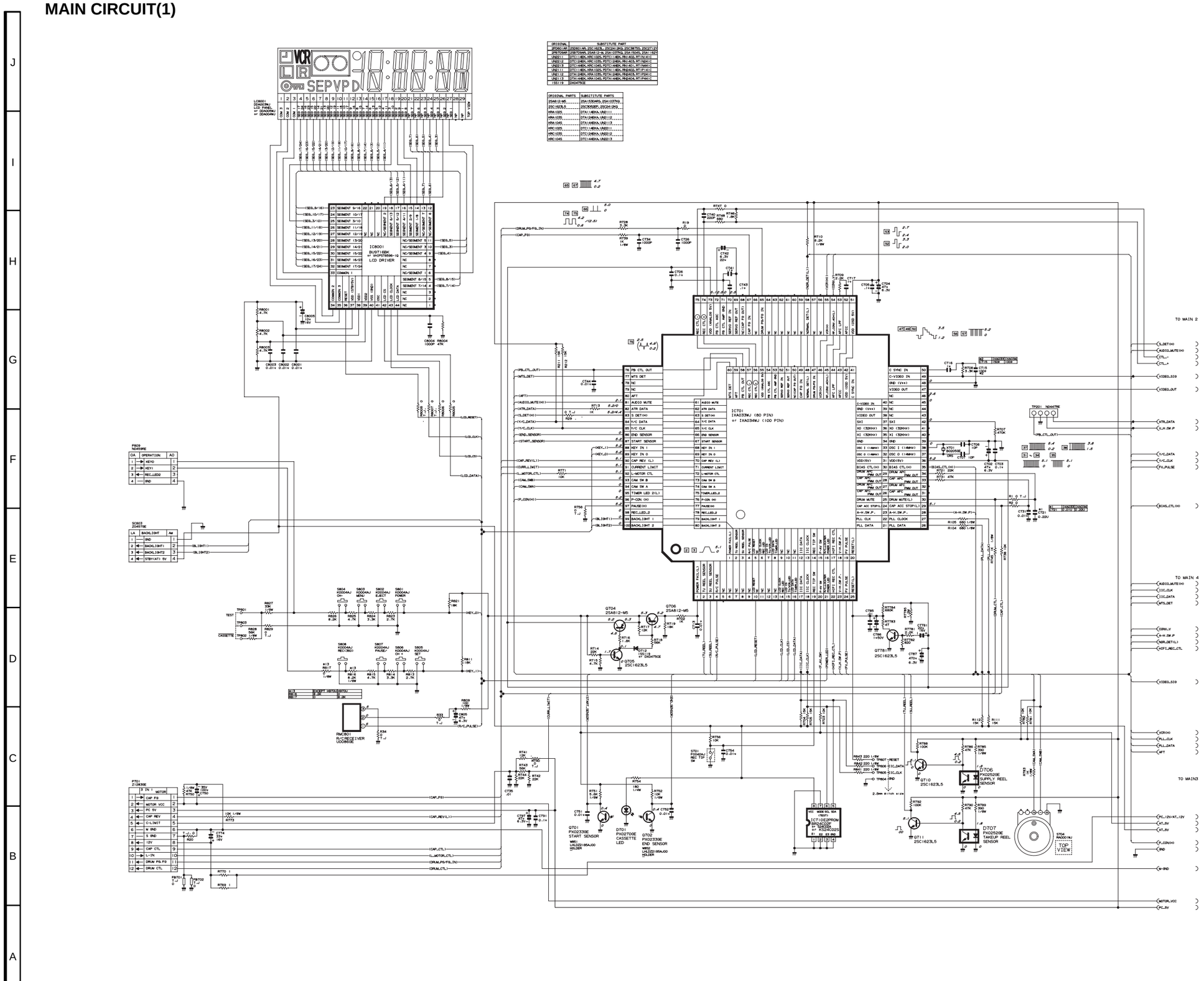
Voltages and waveform are measured as follows:
- *DC voltages are measured with an SSVM placed between points indicated and chassis ground, with the supply voltage of 120V AC and all controls for normal positions.*

This circuit diagram is a standard one, actual circuits printed may be subject to change for product improvement without prior notice.

VC-A565U/H965U

9. SCHEMATIC DIAGRAM AND PWB FOIL PATTERN

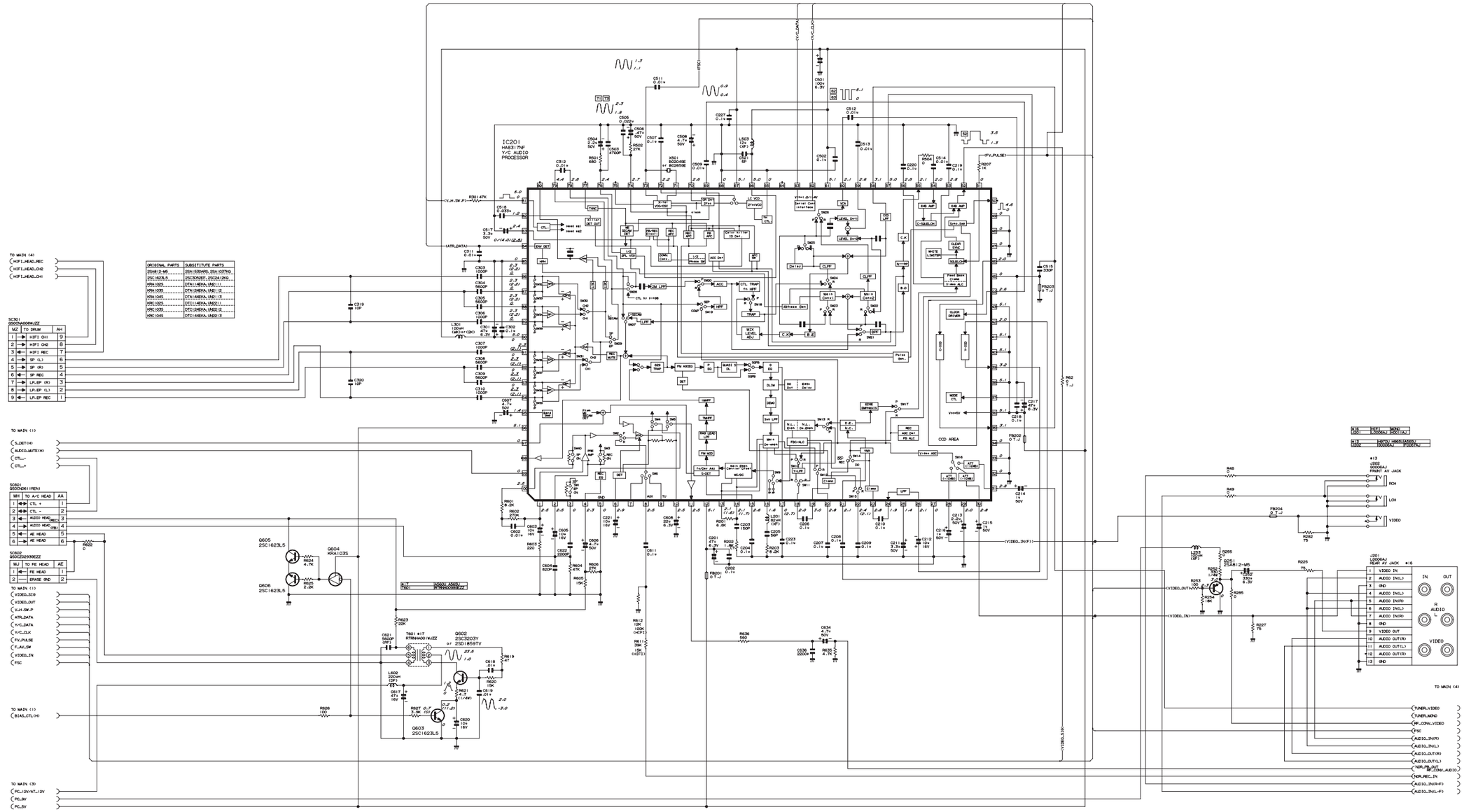
MAIN CIRCUIT(1)



*** VOLTAGE MEASUREMENT MODE**
PB ..... Parentheses ( )
REC ..... Without Parentheses

VC-A565U/H965U

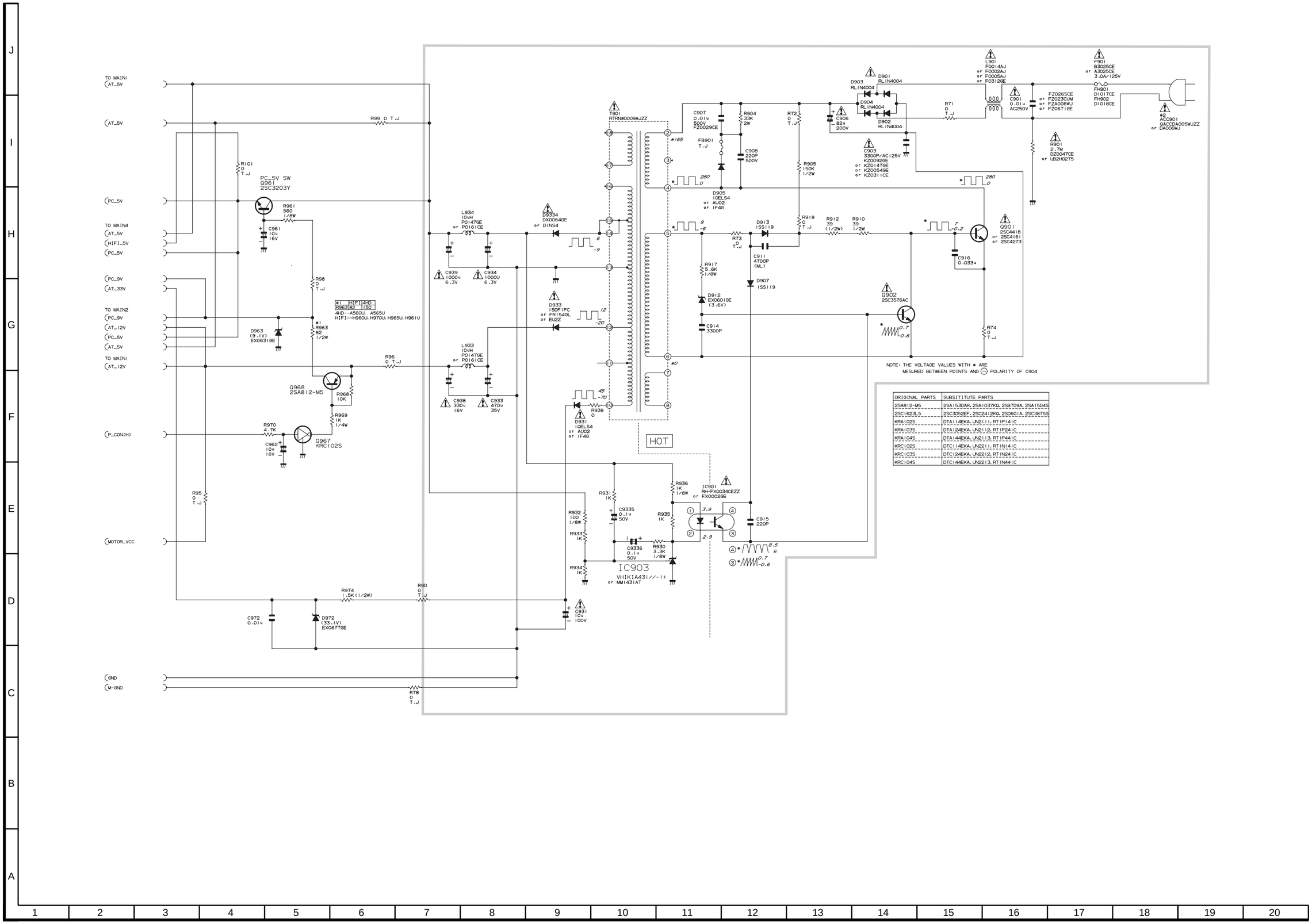
MAIN CIRCUIT(2)



*** VOLTAGE MEASUREMENT MODE**
PB ..... Parentheses ( )
REC ..... Without Parentheses

VC-A565U/H965U

MAIN CIRCUIT(3)

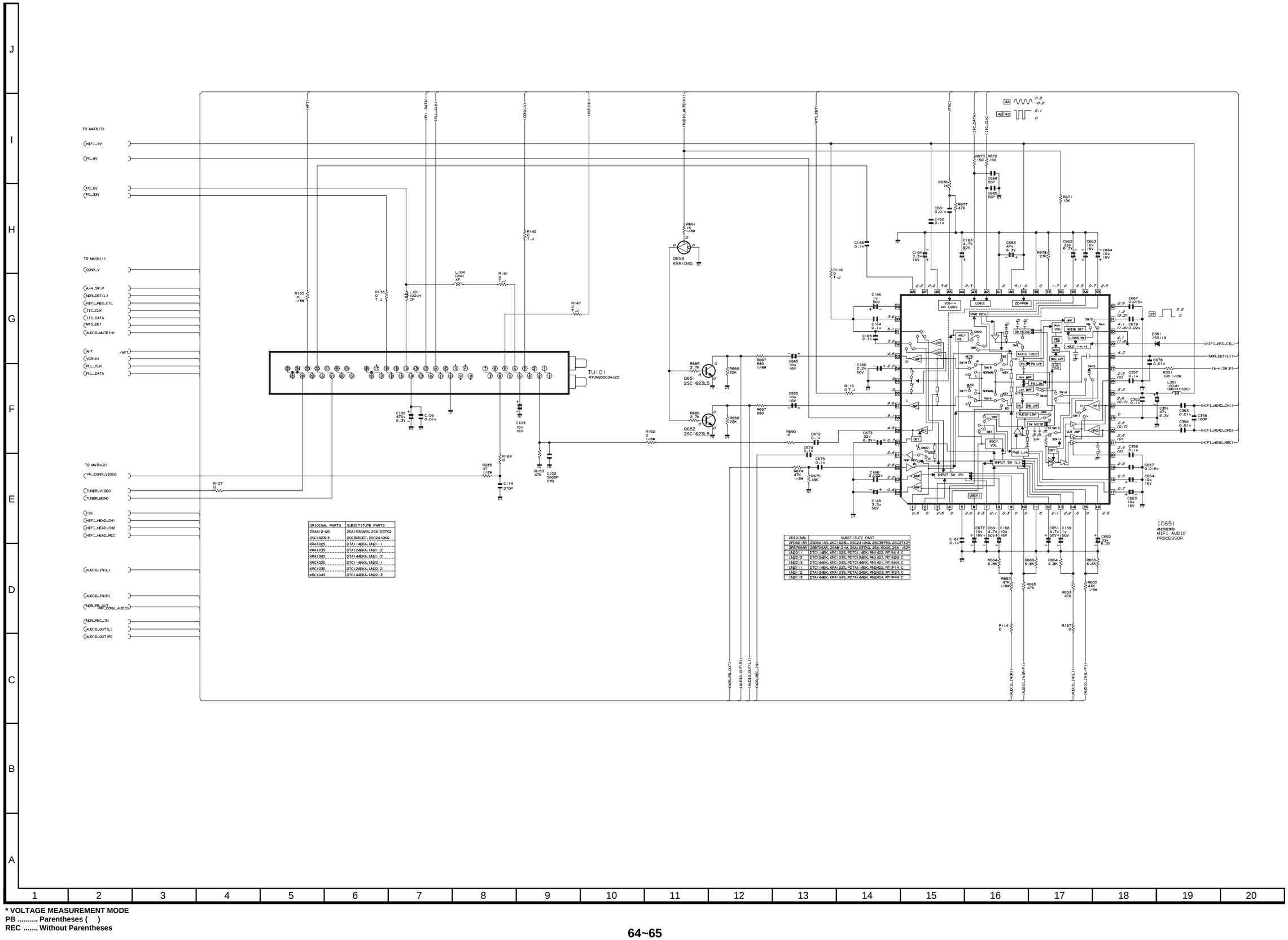


ORIGINAL PARTS	SUBSITITUTE PARTS
2SA812-M5	2SA1530AR, 2SA1037KQ, 2SB709A, 2SA1504S
2SC1623L5	2SC3052EF, 2SC2412KQ, 2SD601A, 2SC3875S
KRA102S	DTA114EKA, UN2111, RT1P141C
KRA103S	DTA124EKA, UN2112, RT1P241C
KRA104S	DTA144EKA, UN2113, RT1P441C
KRC102S	DTC114EKA, UN2211, RT1N141C
KRC103S	DTC124EKA, UN2212, RT1N241C
KRC104S	DTC144EKA, UN2213, RT1N441C

*** VOLTAGE MEASUREMENT MODE**
PB ..... Parentheses ( )
REC ..... Without Parentheses

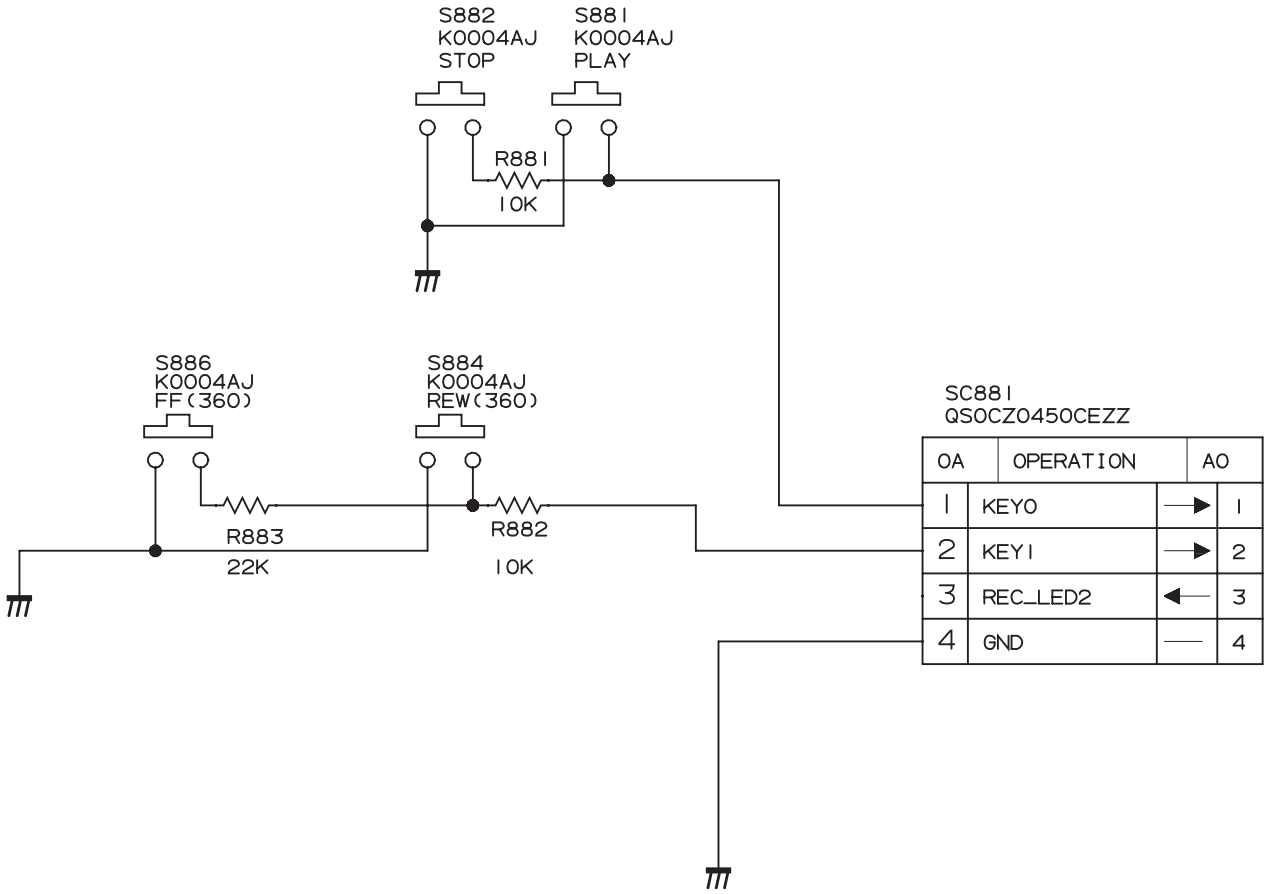
VC-A565U/H965U

MAIN CIRCUIT(4)



*** VOLTAGE MEASUREMENT MODE**
PB ..... Parentheses ( )
REC ..... Without Parentheses

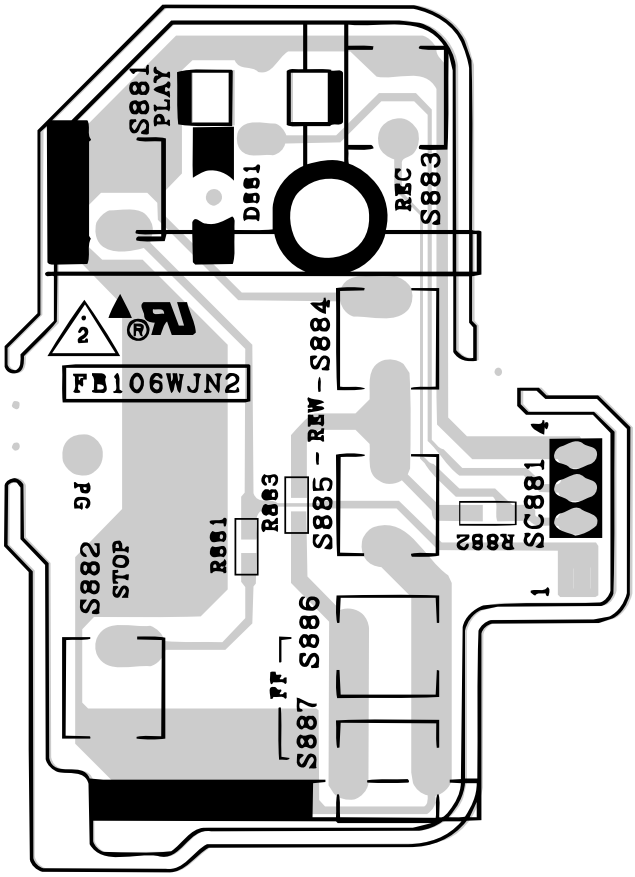
OPERATION CIRCUIT



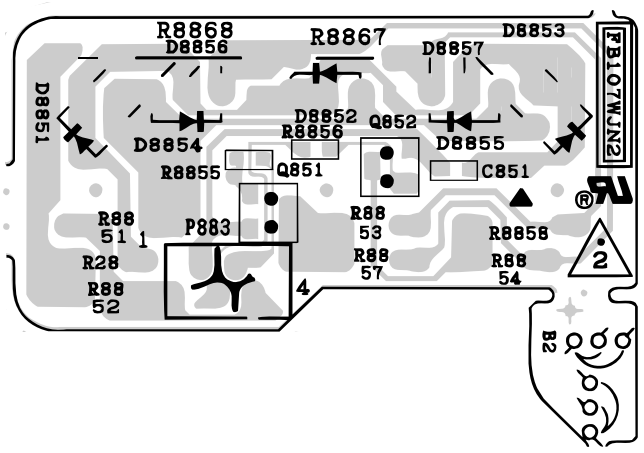
* VOLTAGE MEASUREMENT MODE
PB ..... Parentheses ( )
REC ..... Without Parentheses

PWB FOIL PATTERN

OPERATION PWB

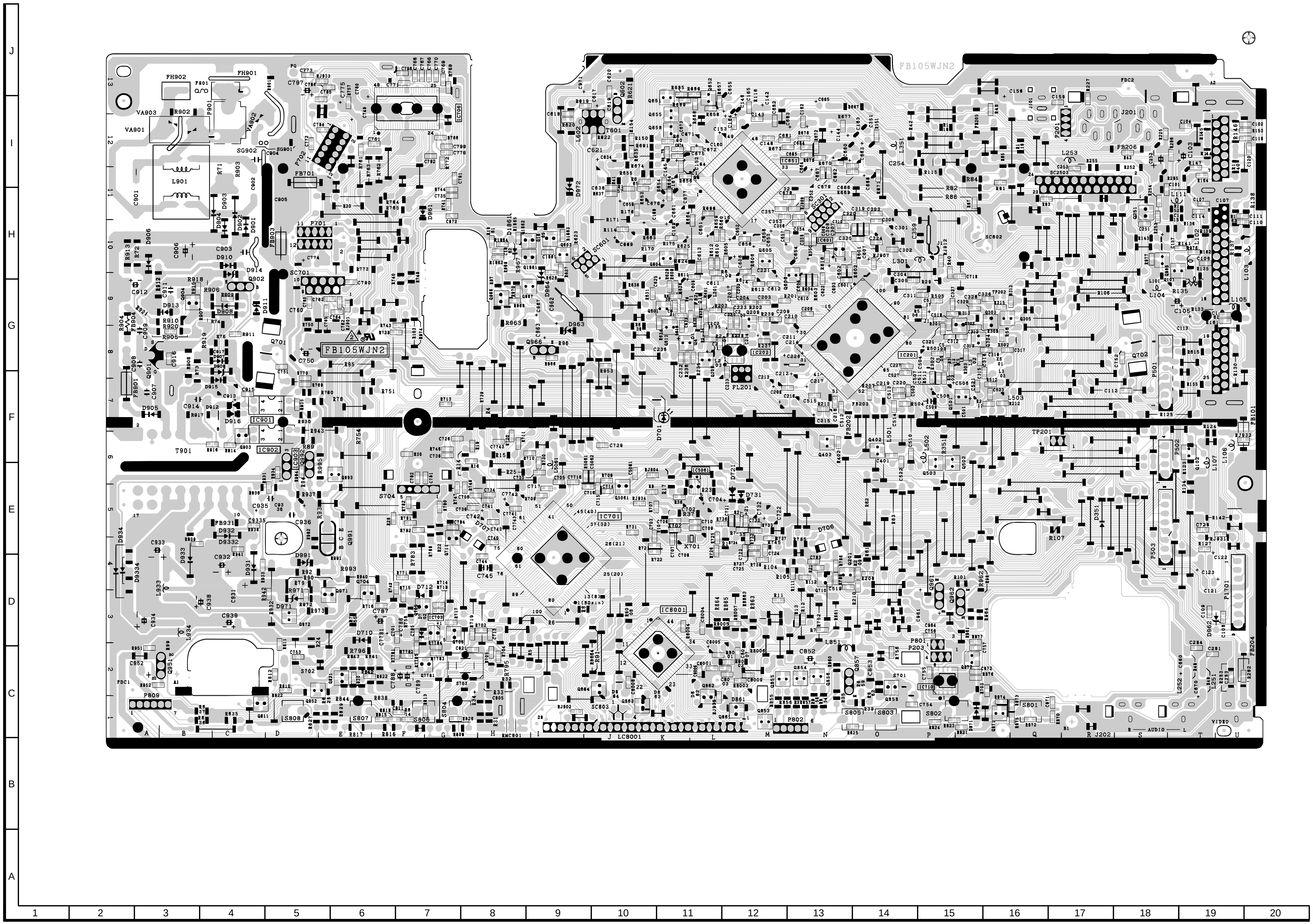


LCD PWB



VC-A565U/H965U

MAIN PWB



- M E M O -

10. REPLACEMENT PARTS LIST
PARTS REPLACEMENT

Many electrical and mechanical parts in video cassette recorder have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this manual; electrical components having such features are identified by " ⚠ " and shaded areas in the Replacement Parts Lists and Schematic Diagrams.
The use of a substitute replacement part which does not have the same safety characteristics as the factory recommended replacement parts shown in this service manual may create shock, fire or other hazards.

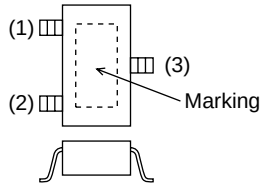
"HOW TO ORDER REPLACEMENT PARTS"

To have your order filled promptly and correctly, please furnish the following informations.

1. MODEL NUMBER **2. REF. NO.**
3. PART NO. **4. DESCRIPTION**

in USA : Contact your nearest SHARP Parts Distributor to order.
For location of SHARP Parts Distributor,
Please Call Toll-free;
1-800-BE-SHARP

HOW TO IDENTIFY CHIP TRANSISTORS AND DIODES BY ITS MARKING



(1) Base/Input
(2) Emitter/Ground
(3) Collector/Output

Fig. 1

Package	Marking	Parts No.
Fig. 1	TR/TS	VS2SA1530ARS1
Fig. 1	LE/LF	VS2AC3052EF-1
Fig. 1	PC	VSKRA103S//-1
Fig. 1	PD	VSKRA104S//-1
Fig. 1	NC	VSKRC103S//-1
Fig. 1	ND/NE	VS2SD1306-E1E

MARK★: SPARE PARTS-DELIVERY SECTION

Ref. No.	Part No.	★	Description	Code

PRINTED WIRING BOARD ASSEMBLIES
(NOT REPLACEMENT ITEM)

PRINTED WIRING BOARD ASSEMBLY			
DUNTKB105TEVB	-	Main Unit(VC-A565U)	—
DUNTKB105TEVD	-	Main Unit(VC-H965U)	—
DUNTKB106TEV2	-	Operation Unit	—
DUNTKB107TEV2	-	LCD Unit	—

10. LISTE DES PIECES
CHANGE DES PIECES

De nombreuses pièces électriques et mécaniques de magnétoscopes présentent des caractéristiques particulières de sécurité.
Ces caractéristiques ne sont pas toujours évidentes à l'inspection visuelle et la protection qu'elles assurent ne peut pas toujours être obtenue par des pièces de rechange étalonnées à un régime de tension, une puissance, etc. superieurs. Les pièces de rechange qui présentent ces caractéristiques spéciales de sécurité, sont identifiées dans ce manuel: les pièces électriques qui présentent ces particularités, sont repérée par la marque " ⚠ " et sont hachurées dans les listes de pièces et dans les diagrammes schématiques.
La substitution d'une pièce de rechange par une autre qui ne présente pas les mêmes caractéristiques de sécurité que la pièce recommandée par l'usine et repérée dans ce manuel de service, peut provoquer une électrocution, un incendie ou tout autre sinistre.

"COMMENT COMMANDER LES PIECES DE RECHANGE"

Pour que votre commande soit rapidement et correctement remplie, veuillez fournir les renseignements suivants.

1. NUMERO DU MODELE **2. NO. DE REF**
3. NO. DE PIECE **4. DESCRIPTION**

In **CANADA**: Contact Sharp Electronics of Canada Limited
Phone (416) 890-2100

★MARQUE: SECTION LIVRAISON DES PIECES DE RECHANGE

Ref. No.	Part No.	★	Description	Code
DUNTKB105TEVB(VC-A565U) DUNTKB105TEVD(VC-H965U) MAIN UNIT				
TUNER				
TU101	RTUNQ0003AJZZ	V	Tuner	BC
INTEGRATED CIRCUITS				
IC201	VHiHA8317NF-1	V	HA118317NF, Y/C Audio Processor	AZ
IC651	VHiAN3663FB-1	V	AN3663FBP, Hifi Audio Processor (VC-H965U)	
IC701	RH-iXA033WJZZ	V	XA033WJ	
IC710	VHiS524CD2S1E	V	S524CD2S, E²PROM	
IC903	VHiKiA431//-1	V	KIA431	AE
IC8001	VHiPT6596++-1	V	PT6596, LCD Driver	
TRANSISTORS				
Q251	VS2SA1530ARS1	V	2SA1530AR	AC
Q602	VS2SC3203Y/-1	V	2SC3203Y	AB
Q603	VS2SC3052EF-1	V	2SC3052EF	AC
Q604	VSKRA103S//-1	V	KRA103S	AA
Q605	VS2SC3052EF-1	V	2SC3052EF	AC
Q606	VS2SC3052EF-1	V	2SC3052EF	AC
Q651	VS2SC3052EF-1	V	2SC3052EF(VC-H965U)	AC
Q652	VS2SC3052EF-1	V	2SC3052EF(VC-H965U)	AC
Q658	VSKRA104S//-1	V	KRA104S(VC-H965U)	AA
Q704	VS2SA1530ARS1	V	2SA1530AR	AC
Q705	VS2SC3052EF-1	V	2SC3052EF	AC
Q706	VS2SA1530ARS1	V	2SA1530AR	AC
Q710	VS2SC3052EF-1	V	2SC3052EF	AC
Q711	VS2SC3052EF-1	V	2SC3052EF	AC
⚠ Q901	VS2SC4418//-1	V	2SC4418	AH
⚠ Q902	VS2SC3576AC-1	V	2SC3576AC	AC
Q961	VS2SC3203Y/-1	V	2SC3203Y	AB
Q967	VSKRC102S//-1	V	KRC102S	AA

Ref. No.	Part No.	★	Description	Code
Q968	VS2SA1530ARS1	V	2SA1530AR	AC
Q7781	VS2SC3052EF-1	V	2SC3052EF	AC
			DIODES AND LED'S	
D351	VHD1SS119//-1	V	1SS119(VC-H965U)	AB
D701	RH-PX0270GEZZ	J	LED, Cassette LED	AC
D706	RH-PX0252GEZZ	J	LED, Supply Reel Sensor	AF
D707	RH-PX0252GEZZ	J	LED, Takeup Reel Sensor	AF
D712	VHD1SS119//-1	V	1SS119	AB
⚠ D901	VHDRL1N4004-1	V	RL1N4004	AD
⚠ D902	VHDRL1N4004-1	V	RL1N4004	AD
⚠ D903	VHDRL1N4004-1	V	RL1N4004	AD
⚠ D904	VHDRL1N4004-1	V	RL1N4004	AD
⚠ D905	VHD10ELS4//-1	V	10ELS4	AD
⚠ D907	VHD1SS119//-1	V	1SS119	AB
⚠ D912	RH-EX0601GEZZ	J	Zener Diode, 3.6V	AA
⚠ D913	VHD1SS119//-1	V	1SS119	AB
⚠ D931	VHD10ELS4//-1	V	10ELS4	AD
D932	VHD10ELS4//-1	V	10ELS4	AD
⚠ D933	VHD15DF1FC/1E	V	15DF1FC	AD
D963	RH-EX0631GEZZ	J	Zener Diode, 9.1V	AA
D972	RH-EX0677GEZZ	J	Zener Diode, 33.1v	AB
⚠ D9334	RH-DX0064GEZZ	J	DX0064GE	AC
⚠ IC901	RH-FX0034CEZZ	V	PC817	AE
Q701	RH-PX0233GEZZ	J	LED, Start Sensor	AD
Q702	RH-PX0233GEZZ	J	LED, End Sensor	AD
			PACKAGED CIRCUITS	
X501	RCRSB0204GEZZ	J	Crystal, CRSB0204GE	AG
X701	RCRSB0205GEZZ	J	Crystal, CRSB0205GE	AM
			COILS	
L101	VP-CF101K0000	V	Peaking, 100µH	AB
L104	VP-XF100K0000	V	Peaking, 10µH	AB
L201	VP-XF820K0000	V	Peaking, 82µH	AB
L253	VP-XF101K0000	V	Peaking, 100µH	AB
L301	VP-MK101K0000	V	Peaking, 100µH	AB
L351	VP-MK101K0000	V	Peaking, 100µH (VC-H965U)	AB
L503	VP-XF120K0000	V	Peaking, 12µH	AB
L602	VP-DF221K0000	V	Peaking, 220µH	AB
⚠ L901	RCiLF0005AJZZ	V	Coil, CiLF0005AJ	AE
⚠ L933	RCiLP0147GEZZ	J	Coil, 10µH	AC
⚠ L934	RCiLP0147GEZZ	J	Coil, 10µH	AC
			TRANSFORMERS	
T601	RTRNH0098GEZZ	J	OSC. Transformer (VC-A565U)	AE
T601	RTRNHA001WJZZ	V	OSC. Transformer (VC-H965U)	AD
⚠ T901	RTRNW0009AJZZ	V	Transformer	AK
			CAPACITORS	
C102	VCKYCY1HB562K	V	5600p 50V Ceramic	AA
C103	VCEA9A1CW106M	V	10 16V Electrolytic	AB
C105	VCEA0A0JW477M	V	470 6.3V Electrolytic	AC
C106	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C114	VCKYCY1HB221K	V	220p 50V Ceramic	AA
C144	VCEA9M1HW335M	V	3.3 50V Electrolytic (VC-H965U)	AB
C145	VCEA9M1HW335M	V	3.3 50V Electrolytic (VC-H965U)	AB
C146	VCEA9M1HW105M	V	1 50V Electrolytic (VC-H965U)	AB
C148	VCKYCY1CF104Z	V	0.1 16V Ceramic (VC-H965U)	AA
C160	VCEA9M1HW225M	V	2.2 50V Electrolytic (VC-H965U)	AB
C162	VCKYCY1CB104K	V	0.1 16V Ceramic (VC-H965U)	AB
C163	VCEA9M1HW475M	V	4.7 50V Electrolytic (VC-H965U)	AB
C164	VCKYCY1CB104K	V	0.1 16V Ceramic (VC-H965U)	AB
C165	VCKYCY1CB104K	V	0.1 16V Ceramic (VC-H965U)	AB
C166	VCKYCY1EB223K	V	0.022 25V Ceramic (VC-H965U)	AA
C167	VCKYCY1CB104K	V	0.1 16V Ceramic (VC-H965U)	AB
C168	VCEA9M1CW106M	V	10 16V Electrolytic (VC-H965U)	AB
C169	VCEA9M1HW105M	V	1 50V Electrolytic (VC-H965U)	AB
C201	VCEA9M0JW476M	V	47 6.3V Electrolytic	AB
C202	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C203	VCCCCY1HH151J	V	150p 50V Ceramic	AA
C204	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C205	VCCCCY1HH560J	V	56p 50V Ceramic	AA
C206	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C207	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C208	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C209	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C210	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C211	VCEA9M1HW335M	V	3.3 50V Electrolytic	AB
C212	VCEA9M1CW106M	V	10 16V Electrolytic	AB
C213	VCEA9M1HW225M	V	2.2 50V Electrolytic	AB
C214	VCEA9M1HW105M	V	1 50V Electrolytic	AB
C215	VCEA9M1HW105M	V	1 50V Electrolytic	AB
C216	VCEA9M1HW105M	V	1 50V Electrolytic	AB
C217	VCEA9M0JW476M	V	47 6.3V Electrolytic	AB
C218	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C219	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C220	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C221	VCEA9M1CW106M	V	10 16V Electrolytic	AB
C223	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C227	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C252	VCEA0A0JW337M	V	330 6.3V Electrolytic	AC
C301	VCEA9M0JW476M	V	47 6.3V Electrolytic	AB
C302	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C303	VCKYCY1HB102K	V	1000p 50V Ceramic	AA
C304	VCKYCY1HB562K	V	5600p 50V Ceramic	AA
C305	VCKYCY1HB562K	V	5600p 50V Ceramic	AA
C306	VCKYCY1HB102K	V	1000p 50V Ceramic	AA
C307	VCKYCY1HB102K	V	1000p 50V Ceramic	AA
C308	VCKYCY1HB562K	V	5600p 50V Ceramic	AA
C309	VCKYCY1HB562K	V	5600p 50V Ceramic	AA
C310	VCKYCY1HB102K	V	1000p 50V Ceramic	AA
C311	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C312	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C319	VCCCCY1HH100D	V	10p 50V Ceramic	AA
C320	VCCCCY1HH100D	V	10p 50V Ceramic	AA
C351	VCEA9M0JW476M	V	47 6.3V Electrolytic (VC-H965U)	AB
C352	VCKYCY1CF104Z	V	0.1 16V Ceramic (VC-H965U)	AA
C353	VCKYCY1HF103Z	V	0.01 50V Ceramic (VC-H965U)	AA
C354	VCKYCY1HF103Z	V	0.01 50V Ceramic (VC-H965U)	AA
C356	VCCCCY1HH101J	V	100p 50V Ceramic (VC-H965U)	AA
C357	VCKYCY1CB104K	V	0.1 16V Ceramic (VC-H965U)	AB
C358	VCKYCY1CB104K	V	0.1 16V Ceramic (VC-H965U)	AB
C501	VCEA9M0JW107M	V	100 6.3V Electrolytic	AB
C502	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C503	VCKYCY1HB472K	V	4700p 50V Ceramic	AA
C504	VCEA9M1HW225M	V	2.2 50V Electrolytic	AB
C505	VCKYCY1EB223K	V	0.022 25V Ceramic	AA
C506	VCEA9M1HW474M	V	0.47 50V Electrolytic	AB
C507	VCKYCY1CF104Z	V	0.1 16V Ceramic	AA
C508	VCEA9M1HW475M	V	4.7 50V Electrolytic	AB
C509	VCKYD41CY103N	V	0.01 16V Ceramic	AA
C511	VCKYCY1HF103Z	V	0.01 50V Ceramic (VC-H965U)	AA
C512	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C513	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C514	VCKYCY1HF103Z	V	0.01 50V Ceramic	AA
C515	VCKYCY1HB331K	V	330p 50V Ceramic	AA
C517	VCEA9M1HW335M	V	3.3 50V Electrolytic	AB
C518	VCKYCY1HF333Z	V	0.033 50V Ceramic	AA

Ref. No.	Part No.	★	Description			Code
C521	VCCCCY1HH5R0C	V	5p	50V	Ceramic	AA
C602	VCKYCY1EB103K	V	0.01	25V	Ceramic	AA
C603	VCEA9M1CW106M	V	10	16V	Electrolytic	AB
C604	VCKYCY1HB821K	V	820p	50V	Ceramic	AA
C605	VCEA9M1CW106M	V	10	16V	Electrolytic	AB
C606	VCEA9M1HW475M	V	4.7	50V	Electrolytic	AB
C607	VCEA9M1HW475M	V	4.7	50V	Electrolytic	AB
C608	VCEA9M0JW226M	V	22	6.3V	Electrolytic	AB
C610	VCKYCY1CF104Z	V	0.1	16V	Ceramic	AA
			(VC-A565U)			
C611	VCKYCY1CF104Z	V	0.1	16V	Ceramic	AA
C612	VCKYCY1CF104Z	V	0.1	16V	Ceramic	AA
			(VC-A565U)			
C613	VCKYCY1EB183K	V	0.018	25V	Ceramic	AA
			(VC-A565U)			
C617	VCEA9M1CW476M	V	47	16V	Electrolytic	AB
C618	VCKYCY1EB103K	V	0.01	25V	Ceramic	AA
C619	VCKYCY1EB103K	V	0.01	25V	Ceramic	AA
C620	VCEA9M1CW106M	V	10	16V	Electrolytic	AB
C621	VCQPYA2AA562J	V	5600p	100V		AC
C622	VCKYCY1HB222K	V	2200p	50V	Ceramic	AA
			(VC-A565U)			
C622	VCKYCY1HB332K	V	3300p	50V	Ceramic	AA
			(VC-H965U)			
C634	VCEA9M1HW475M	V	4.7	50V	Electrolytic	AB
C636	VCKYCY1HB222K	V	2200p	50V	Ceramic	AA
C651	VCEA9M1HW475M	V	4.7	50V	Electrolytic	AB
			(VC-H965U)			
C652	VCEA9M0JW336M	V	33	6.3V	Electrolytic	AB
			(VC-H965U)			
C653	VCEA9M1CW106M	V	10	16V	Electrolytic	AB
			(VC-H965U)			
C654	VCEA9M1CW106M	V	10	16V	Electrolytic	AB
			(VC-H965U)			
C655	VCEA9M1CW106M	V	10	16V	Electrolytic	AB
			(VC-H965U)			
C657	VCKYCY1EB153K	V	0.015	25V	Ceramic	AA
			(VC-H965U)			
C661	VCEA9M1HW475M	V	4.7	50V	Electrolytic	AB
			(VC-H965U)			
C662	VCEA9M0JW336M	V	33	6.3V	Electrolytic	AB
			(VC-H965U)			
C663	VCEA9M1CW106M	V	10	16V	Electrolytic	AB
			(VC-H965U)			
C664	VCEA9M1CW106M	V	10	16V	Electrolytic	AB
			(VC-H965U)			
C665	VCEA9M1CW106M	V	10	16V	Electrolytic	AB
			(VC-H965U)			
C667	VCKYCY1EB153K	V	0.015	25V	Ceramic	AA
			(VC-H965U)			
C671	VCEA9M1CW476M	V	47	16V	Electrolytic	AB
			(VC-H965U)			
C672	VCKYCY1CF104Z	V	0.1	16V	Ceramic	AA
			(VC-H965U)			
C673	VCEA9M0JW226M	V	22	6.3V	Electrolytic	AB
			(VC-H965U)			
C674	VCKYCY1CF104Z	V	0.1	16V	Ceramic	AA
			(VC-H965U)			
C675	VCKYCY1CF104Z	V	0.1	16V	Ceramic	AA
			(VC-H965U)			
C677	VCEA9M1CW106M	V	10	16V	Electrolytic	AB
			(VC-H965U)			
C678	VCKYCY1HF103Z	V	0.01	50V	Ceramic	AA
			(VC-H965U)			
C679	VCKYCY1CF224Z	V	0.22	16V	Ceramic	AA
			(VC-H965U)			
C681	VCKYCY1HF103Z	V	0.01	50V	Ceramic	AA
			(VC-H965U)			
C683	VCEA9M0JW476M	V	47	6.3V	Electrolytic	AB
			(VC-H965U)			
C684	VCCCCY1HH560J	V	56p	50V	Ceramic	AA
			(VC-H965U)			
C685	VCCCCY1HH560J	V	56p	50V	Ceramic	AA
			(VC-H965U)			
C702	VCEA9M0JW476M	V	47	6.3V	Electrolytic	AB
C703	VCKYCY1CF104Z	V	0.1	16V	Ceramic	AA
C704	VCEA9M0JW476M	V	47	6.3V	Electrolytic	AB
C705	VCKYCY1CF104Z	V	0.1	16V	Ceramic	AA
C706	VCKYCY1CF104Z	V	0.1	16V	Ceramic	AA
C707	VCCCCY1HH100D	V	10p	50V	Ceramic	AA
C708	VCCCCY1HH100D	V	10p	50V	Ceramic	AA
C713	VCKYCY1HF103Z	V	0.01	50V	Ceramic	AA
C715	VCCCCY1HH151J	V	150p	50V	Ceramic	AA
C717	VCKYCY0JF105Z	V	1	6.3V	Ceramic	AB
C721	VCKYCY1EB103K	V	0.01	25V	Ceramic	AA
C726	VCKYCY1HB102K	V	1000p	50V	Ceramic	AA
C731	VCKYCY1HF103Z	V	0.01	50V	Ceramic	AA
C734	VCKYCY1HB102K	V	1000p	50V	Ceramic	AA
C735	VCKYCY1HF103Z	V	0.01	50V	Ceramic	AA
C740	VCKYCY1HB221K	V	220p	50V	Ceramic	AA
C744	VCKYCY1EB103K	V	0.01	25V	Ceramic	AA
C750	VCEA2A1VW107M	V	100	35V	Electrolytic	AC
C751	VCKYCY1HF103Z	V	0.01	50V	Ceramic	AA
C752	VCKYCY1HF103Z	V	0.01	50V	Ceramic	AA
C754	VCKYCY1HF103Z	V	0.01	50V	Ceramic	AA
C774	VCEA9M1CW336M	V	33	16V	Electrolytic	AB
C785	VCKYCY1HF103Z	V	0.01	50V	Ceramic	AA
C786	VCEA9M1HW105M	V	1	50V	Electrolytic	AB
C787	VCEA0A0JW477M	V	470	6.3V	Electrolytic	AC
C791	VCKYCY1CF104Z	V	0.1	16V	Ceramic	AA
C797	VCEA9A0JW476M	V	47	6.3V	Electrolytic	AB
C805	VCEA9M0JW476M	V	47	6.3V	Electrolytic	AB
⚠ C901	RC-FZ026SCEZZ	V	0.01	AC250V		AE
⚠ C903	RC-KZ0092GEZZ	J	330p	AC125V		AC
⚠ C906	RC-EZ0238CEZZ	V	82	200V	Electrolytic	AE
⚠ C907	RC-KZ0029CEZZ	V	0.01	500V		AC
⚠ C908	VCKYPA2HB221K	V	220p	500V	Ceramic	AA
⚠ C911	VCQYTA1HM472K	V	4700p	50V	Mylar	AB
⚠ C914	VCQYTA1HM332K	V	3300p	50V	Mylar	AB
⚠ C915	VCKYCY1HB221K	V	220p	50V	Ceramic	AA
⚠ C916	VCKYCY1HF333Z	V	0.033	50V	Ceramic	AA
⚠ C931	VCEA0M2AW106M	V	10	100V	Electrolytic	
⚠ C932	VCEA0A1VW477M	V	470	35V	Electrolytic	AB
⚠ C933	VCEA0A1VW477M	V	470	35V	Electrolytic	AB
⚠ C934	VCEA0A0JW108M	V	1000	6.3V	Electrolytic	AC
⚠ C938	VCEA0A1CW337M	V	330	16V	Electrolytic	AC
⚠ C939	VCEA0A0JW108M	V	1000	6.3V	Electrolytic	AC
C961	VCEA9M1CW106M	V	10	16V	Electrolytic	AB
C962	VCEA9M1CW106M	V	10	16V	Electrolytic	AB
C963	VCEA9M1CW106M	V	10	16V	Electrolytic	AB
C972	VCKYCY1HF103Z	V	0.01	50V	Ceramic	AA
C7716	VCKYCY0JB105K	V	1	6.3V	Ceramic	AC
C7741	VCKYCY1CF104Z	V	0.1	16V	Ceramic	AA
C7742	VCEA9M0JW226M	V	22	6.3V	Electrolytic	AB
C7743	VCKYCY1CF104Z	V	0.1	16V	Ceramic	AA
C7781	VCEA9M1CW226M	V	22	16V	Electrolytic	AB
C8001	VCKYCY1HF103Z	V	0.01	50V	Ceramic	AA
C8002	VCKYCY1HF103Z	V	0.01	50V	Ceramic	AA
C8003	VCKYCY1HF103Z	V	0.01	50V	Ceramic	AA
C8004	VCKYCY1HB102K	V	1000p	50V	Ceramic	AA
C8005	VCEA9M1CW106M	V	10	16V	Electrolytic	AB
C9335	VCEA9M1HW104M	V	0.1	50V	Electrolytic	AC
C9336	VCEA9M1HW104M	V	0.1	50V	Electrolytic	AC

RESISTORS

RJ902	VRS-CY1JF000J	V	0	1/16W	Metal Oxide	AA
RJ904	VRS-CY1JF000J	V	0	1/16W	Metal Oxide	AA
			(VC-H965U)			
RJ908	VRS-CY1JF000J	V	0	1/16W	Metal Oxide	AA
RJ912	VRS-CY1JF000J	V	0	1/16W	Metal Oxide	AA
RJ931	VRS-CY1JF000J	V	0	1/16W	Metal Oxide	AA
			(VC-H965U)			
RJ932	VRS-CY1JF000J	V	0	1/16W	Metal Oxide	AA
RJ934	VRS-CY1JF000J	V	0	1/16W	Metal Oxide	AA
RJ935	VRS-CY1JF000J	V	0	1/16W	Metal Oxide	AA
R2	VRS-CY1JF000J	V	0	1/16W	Metal Oxide	AA
R7	VRS-CY1JF000J	V	0	1/16W	Metal Oxide	AA
R9	VRS-CY1JF000J	V	0	1/16W	Metal Oxide	AA
R11	VRS-CY1JF000J	V	0	1/16W	Metal Oxide	AA
R12	VRS-CY1JF000J	V	0	1/16W	Metal Oxide	AA
R13	VRS-CY1JF000J	V	0	1/16W	Metal Oxide	AA
R16	VRS-CY1JF000J	V	0	1/16W	Metal Oxide	AA
R26	VRS-CY1JF000J	V	0	1/16W	Metal Oxide	AA
R104	VRD-RA2BE681J	V	680	1/8W	Carbon	AA

Ref. No.	Part No.	★	Description	Code
R105	VRD-RA2BE681J	V	680 1/8W Carbon	AA
R111	VRS-CY1JF153J	V	15k 1/16W Metal Oxide	AA
R112	VRS-CY1JF153J	V	15k 1/16W Metal Oxide	AA
R114	VRS-CY1JF000J	V	0 1/16W Metal Oxide (VC-H965U)	AA
R127	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
R147	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
R153	VRS-CY1JF473J	V	47k 1/16W Metal Oxide	AA
R154	VRS-CY1JF822J	V	8.2k 1/16W Metal Oxide (VC-A565U)	AA
R155	VRD-RA2BE102J	V	1k 1/8W Carbon	AA
R157	VRS-CY1JF000J	V	0 1/16W Metal Oxide (VC-H965U)	AA
R164	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
R201	VRS-CY1JF682J	V	6.8k 1/16W Metal Oxide	AA
R202	VRS-CY1JF182J	V	1.8k 1/16W Metal Oxide	AA
R203	VRS-CY1JF822J	V	8.2k 1/16W Metal Oxide	AA
R207	VRS-CY1JF102J	V	1k 1/16W Metal Oxide	AA
R211	VRS-CY1JF153J	V	15k 1/16W Metal Oxide	AA
R212	VRS-CY1JF153J	V	15k 1/16W Metal Oxide	AA
R225	VRS-CY1JF750J	V	75 1/16W Metal Oxide	AA
R227	VRS-CY1JF750J	V	75 1/16W Metal Oxide	AA
R252	VRD-RA2EE331J	V	330 1/4W Carbon	AA
R253	VRS-CY1JF101J	V	100 1/16W Metal Oxide	AA
R254	VRS-CY1JF183J	V	18k 1/16W Metal Oxide	AA
R282	VRS-CY1JF750J	V	75 1/16W Metal Oxide	AA
R285	VRD-RA2BE470J	V	47 1/8W Carbon	AA
R301	VRS-CY1JF473J	V	47k 1/16W Metal Oxide	AA
R351	VRD-RA2BE103J	V	10k 1/8W Carbon (VC-H965U)	AA
R501	VRS-CY1JF681J	V	680 1/16W Metal Oxide	AA
R502	VRS-CY1JF273J	V	27k 1/16W Metal Oxide	AA
R504	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
R601	VRS-CY1JF103J	V	10k 1/16W Metal Oxide (VC-H965U)	AA
R601	VRS-CY1JF822J	V	8.2k 1/16W Metal Oxide (VC-A565U)	AA
R602	VRS-CY1JF274J	V	270k 1/16W Metal Oxide	AA
R603	VRS-CY1JF221J	V	220 1/16W Metal Oxide	AA
R604	VRS-CY1JF473J	V	47k 1/16W Metal Oxide	AA
R605	VRS-CY1JF153J	V	15k 1/16W Metal Oxide	AA
R606	VRS-CY1JF273J	V	27k 1/16W Metal Oxide	AA
R609	VRS-CY1JF333J	V	33k 1/16W Metal Oxide (VC-A565U)	AA
R610	VRS-CY1JF183J	V	18k 1/16W Metal Oxide (VC-A565U)	AA
R611	VRS-CY1JF153J	V	15k 1/16W Metal Oxide (VC-H965U)	AA
R611	VRS-CY1JF393J	V	39k 1/16W Metal Oxide (VC-A565U)	AA
R612	VRS-CY1JF104J	V	100k 1/16W Metal Oxide (VC-H965U)	AA
R612	VRS-CY1JF123J	V	12k 1/16W Metal Oxide (VC-A565U)	AA
R613	VRS-CY1JF393J	V	39k 1/16W Metal Oxide (VC-A565U)	AA
R614	VRS-CY1JF123J	V	12k 1/16W Metal Oxide (VC-A565U)	AA
R615	VRD-RA2BE472J	V	4.7k 1/8W Carbon (VC-A565U)	AA
R619	VRS-CY1JF470J	V	47 1/16W Metal Oxide	AA
R620	VRS-CY1JF153J	V	15k 1/16W Metal Oxide	AA
R621	VRD-RA2EE4R7J	V	4.7 1/4W Carbon	AA
R622	VRS-CY1JF000J	V	0 1/16W Metal Oxide (VC-H965U)	AA
R623	VRS-CY1JF223J	V	22k 1/16W Metal Oxide	AA
R624	VRS-CY1JF472J	V	4.7k 1/16W Metal Oxide	AA
R625	VRS-CY1JF222J	V	2.2k 1/16W Metal Oxide	AA
R626	VRS-CY1JF101J	V	100 1/16W Metal Oxide	AA
R627	VRS-CY1JF392J	V	3.9k 1/16W Metal Oxide	AA
R635	VRS-CY1JF472J	V	4.7k 1/16W Metal Oxide	AA
R636	VRD-RA2BE561J	V	560 1/8W Carbon	AA
R653	VRS-CY1JF473J	V	47k 1/16W Metal Oxide (VC-H965U)	AA
R654	VRS-CY1JF682J	V	6.8k 1/16W Metal Oxide (VC-H965U)	AA
R655	VRD-RA2BE473J	V	47k 1/8W Carbon (VC-H965U)	AA
R656	VRS-CY1JF682J	V	6.8k 1/16W Metal Oxide (VC-H965U)	AA
R657	VRS-CY1JF681J	V	680 1/16W Metal Oxide (VC-H965U)	AA
R658	VRS-CY1JF223J	V	22k 1/16W Metal Oxide (VC-H965U)	AA
R663	VRD-RA2BE473J	V	47k 1/8W Carbon (VC-H965U)	AA
R664	VRS-CY1JF682J	V	6.8k 1/16W Metal Oxide (VC-H965U)	AA
R665	VRS-CY1JF473J	V	47k 1/16W Metal Oxide (VC-H965U)	AA
R666	VRS-CY1JF682J	V	6.8k 1/16W Metal Oxide (VC-H965U)	AA
R667	VRD-RA2BE681J	V	680 1/8W Carbon (VC-H965U)	AA
R668	VRS-CY1JF223J	V	22k 1/16W Metal Oxide (VC-H965U)	AA
R671	VRS-CY1JF103J	V	10k 1/16W Metal Oxide (VC-H965U)	AA
R672	VRS-CY1JF151J	V	150 1/16W Metal Oxide (VC-H965U)	AA
R673	VRS-CY1JF151J	V	150 1/16W Metal Oxide (VC-H965U)	AA
R674	VRD-RA2BE473J	V	47k 1/8W Carbon (VC-H965U)	AA
R675	VRS-CY1JF183J	V	18k 1/16W Metal Oxide (VC-H965U)	AA
R676	VRS-CY1JF102J	V	1k 1/16W Metal Oxide (VC-H965U)	AA
R677	VRS-CY1JF473J	V	47k 1/16W Metal Oxide (VC-H965U)	AA
R678	VRS-CY1JF273J	V	27k 1/16W Metal Oxide (VC-H965U)	AA
R685	VRS-CY1JF272J	V	2.7k 1/16W Metal Oxide (VC-H965U)	AA
R686	VRS-CY1JF272J	V	2.7k 1/16W Metal Oxide (VC-H965U)	AA
R690	VRS-CY1JF102J	V	1k 1/16W Metal Oxide (VC-H965U)	AA
R691	VRD-RA2BE102J	V	1k 1/8W Carbon (VC-H965U)	AA
R702	VRS-CY1JF102J	V	1k 1/16W Metal Oxide	AA
R703	VRS-CY1JF103J	V	10k 1/16W Metal Oxide	AA
R704	VRS-CY1JF153J	V	15k 1/16W Metal Oxide	AA
R705	VRS-CY1JF153J	V	15k 1/16W Metal Oxide	AA
R707	VRS-CY1JF474J	V	470k 1/16W Metal Oxide	AA
R708	VRS-CY1JF332J	V	3.3k 1/16W Metal Oxide	AA
R709	VRS-CY1JF222J	V	2.2k 1/16W Metal Oxide	AA
R710	VRS-CY1JF822J	V	8.2k 1/16W Metal Oxide	AA
R712	VRD-RA2BE822J	V	8.2k 1/8W Carbon (VC-A565U)	AA
R713	VRS-CY1JF102J	V	1k 1/16W Metal Oxide	AA
R714	VRS-CY1JF223J	V	22k 1/16W Metal Oxide	AA
R715	VRS-CY1JF472J	V	4.7k 1/16W Metal Oxide	AA
R716	VRS-CY1JF182J	V	1.8k 1/16W Metal Oxide	AA
R717	VRS-CY1JF123J	V	12k 1/16W Metal Oxide	AA
R718	VRS-CY1JF563J	V	56k 1/16W Metal Oxide	AA
R719	VRS-CY1JF183J	V	18k 1/16W Metal Oxide	AA
R721	VRS-CY1JF563J	V	56k 1/16W Metal Oxide	AA
R728	VRS-CY1JF332J	V	3.3k 1/16W Metal Oxide	AA
R731	VRS-CY1JF473J	V	47k 1/16W Metal Oxide	AA
R738	VRS-CY1JF103J	V	10k 1/16W Metal Oxide	AA
R739	VRD-RA2BE102J	V	1k 1/8W Carbon	AA
R741	VRS-CY1JF123J	V	12k 1/16W Metal Oxide	AA
R742	VRS-CY1JF223J	V	22k 1/16W Metal Oxide	AA
R743	VRS-CY1JF563J	V	56k 1/16W Metal Oxide	AA
R744	VRS-CY1JF223J	V	22k 1/16W Metal Oxide	AA
R745	VRD-RA2BE102J	V	1k 1/8W Carbon	AA
R746	VRS-CY1JF182J	V	1.8k 1/16W Metal Oxide	AA
R747	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
R748	VRS-CY1JF681J	V	680 1/16W Metal Oxide	AA
R750	VRD-RA2BE473J	V	47k 1/8W Carbon	AA
R751	VRD-RA2BE562J	V	5.6k 1/8W Carbon	AA
R752	VRD-RA2BE103J	V	10k 1/8W Carbon	AA

Ref. No.	Part No.	★	Description	Code
R754	VRD-RA2EE181J	V	180 1/4W Carbon	AA
R756	VRS-CY1JF103J	V	10k 1/16W Metal Oxide	AA
R769	VRS-CY1JF1R0J	V	1 1/16W Metal Oxide	AA
R770	VRS-CY1JF1R0J	V	1 1/16W Metal Oxide	AA
R771	VRS-CY1JF103J	V	10k 1/16W Metal Oxide	AA
R773	VRD-RA2BE103J	V	10k 1/8W Carbon	AA
R781	VRS-CY1JF103J	V	10k 1/16W Metal Oxide	AA
R782	VRS-CY1JF103J	V	10k 1/16W Metal Oxide	AA
R783	VRD-RA2BE102J	V	1k 1/8W Carbon	AA
R785	VRD-RA2BE391J	V	390 1/8W Carbon	AA
R786	VRS-CY1JF473J	V	47k 1/16W Metal Oxide	AA
R788	VRS-CY1JF104J	V	100k 1/16W Metal Oxide	AA
R789	VRD-RA2BE391J	V	390 1/8W Carbon	AA
R790	VRS-CY1JF473J	V	47k 1/16W Metal Oxide	AA
R792	VRS-CY1JF104J	V	100k 1/16W Metal Oxide	AA
R809	VRD-RA2BE101J	V	100 1/8W Carbon	AB
R811	VRS-CY1JF183J	V	18k 1/16W Metal Oxide	AA
R813	VRS-CY1JF272J	V	2.7k 1/16W Metal Oxide	AA
R814	VRS-CY1JF332J	V	3.3k 1/16W Metal Oxide	AA
R815	VRS-CY1JF472J	V	4.7k 1/16W Metal Oxide	AA
R816	VRD-RA2BE822J	V	8.2k 1/8W Carbon	AA
R818	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
R821	VRS-CY1JF183J	V	18k 1/16W Metal Oxide	AA
R823	VRS-CY1JF272J	V	2.7k 1/16W Metal Oxide	AA
R824	VRS-CY1JF332J	V	3.3k 1/16W Metal Oxide	AA
R825	VRS-CY1JF472J	V	4.7k 1/16W Metal Oxide	AA
R826	VRS-CY1JF822J	V	8.2k 1/16W Metal Oxide	AA
R827	VRD-RA2BE333J	V	33k 1/8W Carbon	AA
R828	VRD-RA2BE563J	V	56k 1/8W Carbon	AA
R841	VRD-RA2BE221J	V	220 1/8W Carbon	AA
R842	VRD-RA2BE221J	V	220 1/8W Carbon	AA
R843	VRD-RA2BE221J	V	220 1/8W Carbon	AA
⚠ R901	RR-DZ0047CEZZ	V	2.7M	AD
⚠ R904	VRS-VV3DB333J	V	33k 2W Metal Oxide	AA
⚠ R905	VRD-RM2HD154J	V	150k 1/2W Carbon	AA
⚠ R910	VRD-RM2HD390J	V	39 1/2W Carbon	AA
⚠ R912	VRD-RM2HD390J	V	39 1/2W Carbon	AA
⚠ R917	VRD-RA2BE562J	V	5.6k 1/8W Carbon	AA
⚠ R930	VRD-RA2BE332J	V	3.3k 1/8W Carbon	AA
⚠ R931	VRS-CY1JF102J	V	1k 1/16W Metal Oxide	AA
⚠ R932	VRD-RA2BE101J	V	100 1/8W Carbon	AB
⚠ R933	VRS-CY1JF102J	V	1k 1/16W Metal Oxide	AA
⚠ R934	VRS-CY1JF102J	V	1k 1/16W Metal Oxide	AA
⚠ R935	VRS-CY1JF102J	V	1k 1/16W Metal Oxide	AA
⚠ R936	VRD-RA2BE102J	V	1k 1/8W Carbon	AA
⚠ R938	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA
R961	VRD-RA2BE561J	V	560 1/8W Carbon	AA
R963	VRD-RA2EE151J	V	150 1/4W Carbon (VC-A565U)	AA
R963	VRD-RM2HD820J	V	82 1/2W Carbon (VC-H965U)	AA
R968	VRS-CY1JF103J	V	10k 1/16W Metal Oxide	AA
R969	VRD-RA2EE102J	V	1k 1/4W Carbon	AA
R970	VRS-CY1JF472J	V	4.7k 1/16W Metal Oxide	AA
R974	VRD-RM2HD152J	V	1.5k 1/2W Carbon	AA
R7781	VRS-CY1JF222J	V	2.2k 1/16W Metal Oxide	AA
R7782	VRS-CY1JF821J	V	820 1/16W Metal Oxide	AA
R7783	VRS-CY1JF470J	V	47 1/16W Metal Oxide	AA
R7784	VRS-CY1JF684J	V	680k 1/16W Metal Oxide	AA
R7785	VRS-CY1JF125J	V	1.2M 1/16W Metal Oxide	AA
R8001	VRS-CY1JF472J	V	4.7k 1/16W Metal Oxide	AA
R8002	VRS-CY1JF472J	V	4.7k 1/16W Metal Oxide	AA
R8003	VRS-CY1JF472J	V	4.7k 1/16W Metal Oxide	AA
R8004	VRS-CY1JF473J	V	47k 1/16W Metal Oxide	AA
R8005	VRS-CY1JF000J	V	0 1/16W Metal Oxide	AA

SWITCHES

S701	QSW-F0042AJZZ	V	Switch, Rec Tip SW	AG
S704	QSW-RA001WJZZ	V	Switch	
S801	QSW-K0004AJZZ	V	Switch, Power	AB
S802	QSW-K0004AJZZ	V	Switch, Eject	AB
S803	QSW-K0004AJZZ	V	Switch, Menu	AB
S804	QSW-K0004AJZZ	V	Switch, CH-	AB
S805	QSW-K0004AJZZ	V	Switch, Set	AB
S806	QSW-K0004AJZZ	V	Switch, CH+	AB
S807	QSW-K0004AJZZ	V	Switch, Pause	AB
S808	QSW-K0004AJZZ	V	Switch, Rec(360)	AB

Ref. No.	Part No.	★	Description	Code

MISCELLANEOUS PARTS

⚠ ACC901	QACCDA005WJZZ	V	AC Cord	AH
⚠ F901	QFS-B3025CEZZ	V	Fuse, 3.0A/125V	AD
⚠ FH901	QFSHD1017CEZZ	V	Fuse Holder	AC
⚠ FH902	QFSHD1018CEZZ	V	Fuse Holder	AC
J201	QJAKH0011AJZZ	V	Jack(VC-A565U)	AK
J201	QJAKL0024AJZZ	V	Jack(VC-H965U)	
J202	QJAKF0065AJZZ	V	Jack(VC-A565U)	AG
J202	QJAKG0006AJZZ	V	Jack(VC-H965U)	AH
P701	QPLGZ1283GEZZ	J	Plug, 12Pin	
P809	QPLGN0459REZZ	V	Plug, 4Pin	AG
RMC801	RRMCU0086GEZZ	J	Remote Receiver	AQ
SC301	QSOCNA006WJZZ	V	Socket	
SC601	QSOCN0611REN1	V	Socket, 6Pin	AC
SC602	QSOCZ0293GEZZ	J	Socket, 2Pin	AC
SC803	QSOCZ0457GEZZ	J	Socket, 9Pin	AC
TP201	QPLGN0447REZZ	V	Plug, 4Pin	AA
W851	LHLDZ2185AJ00	V	Holder	AB
W852	LHLDZ2185AJ00	V	Holder	AB

DUNTKB106TEV2 OPERATION UNIT

RESISTORS

R881	VRS-CY1JF103J	V	10k 1/16W Metal Oxide	AA
R882	VRS-CY1JF103J	V	10k 1/16W Metal Oxide	AA
R883	VRS-CY1JF223J	V	22k 1/16W Metal Oxide	AA

SWITCHES

S881	QSW-K0004AJZZ	V	Switch, Play	AB
S882	QSW-K0004AJZZ	V	Switch, Stop	AB
S884	QSW-K0004AJZZ	V	Switch, Rec(360)	AB
S886	QSW-K0004AJZZ	V	Switch, FF(360)	AB

MISCELLANEOUS PART

SC881	QSOCZ0450CEZZ	V	Socket, 4Pin	AC

DUNTKB107TEV2 LCD UNIT

TRANSISTORS

Q851	VS2SC3052EF-1	V	Transistor	AC
Q852	VS2SC3052EF-1	V	Transistor	AC

DIODES AND LED'S

LC8001	RLCDDA003WJZZ	V	Display	AM
D8854	RH-PXA008WJZZ	V	PhotoDiode	
D8855	RH-PXA008WJZZ	V	PhotoDiode	

RESISTORS

R8853	VRD-RA2BE271J	V	270 1/8W Carbon	AA
R8854	VRD-RA2BE331J	V	330 1/8W Carbon	AA
R8855	VRS-CY1JF223J	V	22k 1/16W Metal Oxide	AA
R8856	VRS-CY1JF223J	V	22k 1/16W Metal Oxide	AA
R8857	VRD-RA2BE271J	V	270 1/8W Carbon	AA
R8858	VRD-RA2BE331J	V	330 1/8W Carbon	AA

MISCELLANEOUS PART

P883	QPLGZ0457GEZZ	J	Plug, 4Pin	AD

MECHANISM CHASSIS PARTS

Ref. No.	Part No.	★	Description	Code
1	LBNDK1021AJZZ	V	Tension Band Ass'y	AC
2	LBOSZ1022AJZZ	V	Tension Arm Boss	AB
4	LBOSZ1006AJZZ	V	Cassette Stay L	AD
5	LCHSM0186AJZZ	V	Main Chassis Ass'y	AQ
6	LHLDZ2189AJZZ	V	Loading Motor Block	AD
7	LPOLM0085GEZZ	J	Supply Pole Base Ass'y	AF
8	LPOLM0086GEZZ	J	Take-up Pole Base Ass'y	AF
9	MLEVF0544AJZZ	V	Tension Arm Ass'y	AE
10	MARMP0061AJZZ	V	Loading Arm Take-up	AC
11	MARMP0062AJZZ	V	Loading Arm Supply	AC
12	MLEVF0545GEZZ	J	Pinch Roller Lever Ass'y	AM
13	NBRGP0031AJZZ	V	Pinch Guide Bearing	
16	LANGF9660AJFW	V	A/C Head Plate	AD
17	LHLDW1895AJZZ	V	A/C Head FFC Holder	AB
18	MLEVP0347AJZZ	V	Pinch Double Action Lever	AC
19	MLEVP0344AJZZ	V	Reverse Guide Lever Ass'y	AE
20	MLEVP0342AJZZ	V	Loading Link Take-up	AB
21	MLEVP0343AJZZ	V	Loading Link Supply	AB
23	MLEVP0346AJZZ	V	Clutch Lever	AC
24	MLEVP0348AJZZ	V	Supply Pole Main Brake	AB
25	MLEVP0349AJZZ	V	Take-up Main Brake Ass'y	AC
27	MSLiP0016AJZZ	V	Shifer	
28	MSPRD0210AJFJ	V	Reverse Guide Spring	
29	MSPRD0213AJFJ	V	Take-up Load W Spring-H	
30	MSPRD0214AJFJ	V	Supply Load W Spring-H	
31	MSPRT0439AJFJ	V	Pinch Double Action spring	
32	MSPRT0438AJFJ	V	Main Brake Spring	
33	MSPRT0416AJFJ	V	Tension Spring	AD
34	NBLTK0069AJ00	V	H-Reel Belt	
35	NDAiV1093AJ00	V	Supply and Take-up Reel Disk	AC
36	NGERH1342AJZZ	V	Loading Connect Gear	
37	NGERH1344AJZZ	V	Master Cam	
38	NGERH1343AJZZ	V	Synchro Gear	
41	NGERH1345AJZZ	V	Pinch Drive Cam	
43	NGERH1299AJZZ	V	Reel Relay Gear	AE
44	NGERW1081AJZZ	V	Worm Gear	
45	NGERW1082AJZZ	V	Worm Wheel Gear	
46	NiDR-0036AJZZ	V	Idler Ass'y	
48	NPLYV0173AJZZ	V	Limiter Pully Ass'y	
49	NROLP0131GEZZ	J	Guide Roller	AL
51	MSPRC0217AJFJ	V	Guide Roller Spring	AC
52	PREFL1025AJZZ	V	Light Guide	
53	QCNW-A245WJZZ	V	Drum Motor FFC	
55	QCNW-A247WJZZ	V	AC Head FFC	
56	QPWBFB112WJZZ	V	AC Head PWB	
58	RHEDTA001WJZZ	V	Full Erase Head	
59	RHEDUA001WJZZ	V	A/C Head AY W/O AE	AP
59	RHEDUA002WJZZ	V	A/C Head AY W/O AE	
60	RMOTMA001WJZZ	V	Loading Motor	
61	RMOTNA001WJZZ	V	Capstan Motor	
62	RMOTP1139GEZZ	J	OR P1151-KUMA	AT
63	DDRMW0042TEX1	V	Upper and Lower Drum Ass'y	BF
63	DDRMW0043TEX1	V	Upper and Lower Drum Ass'y	BH
64	QCNW-A244WJZZ	V	Loading Motor Wire	
65	QBRSK0041GEZZ	J	OR P1151-KUMA	AD
66	XBPSD26P04500	V	2.6P+4.5A(D/M)	AB
67	PGiDM0187AJZZ	V	Open Guide	
70	MSPRC0228AJFJ	V	Azimuth Spring	AB
71	MSPRC0224AJFJ	V	Height Adjusting Spring	AC
72	LHLDW1894AJZZ	V	R/T FFC Holder	AB
73	MLEVP0355AJZZ	V	Auto Head Cleaner	AC

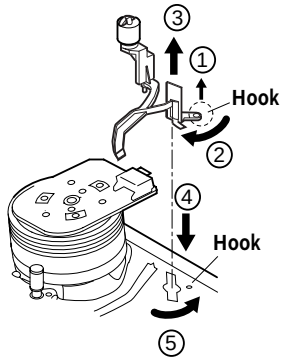
SCREW, NUTS AND WASHERS

Ref. No.	Part No.	★	Description	Code
201	XBPSD26P08000	V	2.6P+8S A/C Head	AA
202	LX-BZ3096GEFD	J	Tilt Adjusting Screw	AA
203	LX-HZ3082GEZZ	J	WSW 2.6+6(AC)	AD
204	XJPSD26P06000	V	2.6+6S(CAPST)	AA
205	LX-RZ3015GEFJ	J	CS Washer	AB
208	XRESJ30-06000	V	E-3(MASTERCAM)	AA
209	XWHJZ31-03052	V	Reel Washer 0.3	AC
210	XWHJZ31-04052	V	Reel Washer 0.4	AC
211	XWHJZ31-05052	V	Reel Washer 0.5	AC
212	XWHJZ31-06052	V	Reel Washer 0.6	AC
213	XWHJZ31-07052	V	Reel Washer 0.7	AC
214	XWHJZ31-08052	V	Reel Washer 0.8	AC
215	XHPSD26P05WS0	V	L/M Block Screw	
216	LX-WZ1041GE00	J	CW2.6-6-0.5 ARM	AA
219	LX-WZ1098GE00	J	CW2.6-4.7-0.5	AB
221	XBPSD26P06000	V	Azimuth Adjusting Screw	AA
222	XBPSD26P14000	V	A/C Head Screw	AA
224	XBPSD30P06000	V	3P+6S (DRM FIX)	AA

CASSETTE HOUSING CONTROL PARTS

Ref. No.	Part No.	★	Description	Code
300	CHLDX3083TEV1	V	Cassette Housing Control Ass'y	AP
301	LANGF9661AJFW	V	Upper Plate	AD
302	LHLDX1049AJ00	V	Frame (L)	AD
303	LHLDX1050AJ00	V	Frame (R)	AE
304	LHLDX1051AJZZ	V	Holder (L)	AC
305	LHLDX1052AJZZ	V	Holder (R)	AC
306	MARMP0063AJZZ	V	Drive Arm (L)	AB
307	MARMP0064AJZZ	V	Drive Arm (R)	AC
308	MLEVP0350AJZZ	V	Drive Lever	AD
309	MLEVP0351AJZZ	V	Proof Lever	
310	MLEVP0352AJ00	V	Sensor Plate	
311	MLEVP0353AJ00	V	Open Lever	
312	MSLiF0079AJFW	V	Slider	
313	MSPRD0212AJFJ	V	Drive Arm Spring	
314	MSPRP0175AJFJ	V	Cassette Spring	AE
315	MSPRD0215AJFJ	V	Proof Lever Spring	
317	NSFTD0065AJFD	V	Main Shaft	

• Replacing the AHC (Auto Head Cleaner)



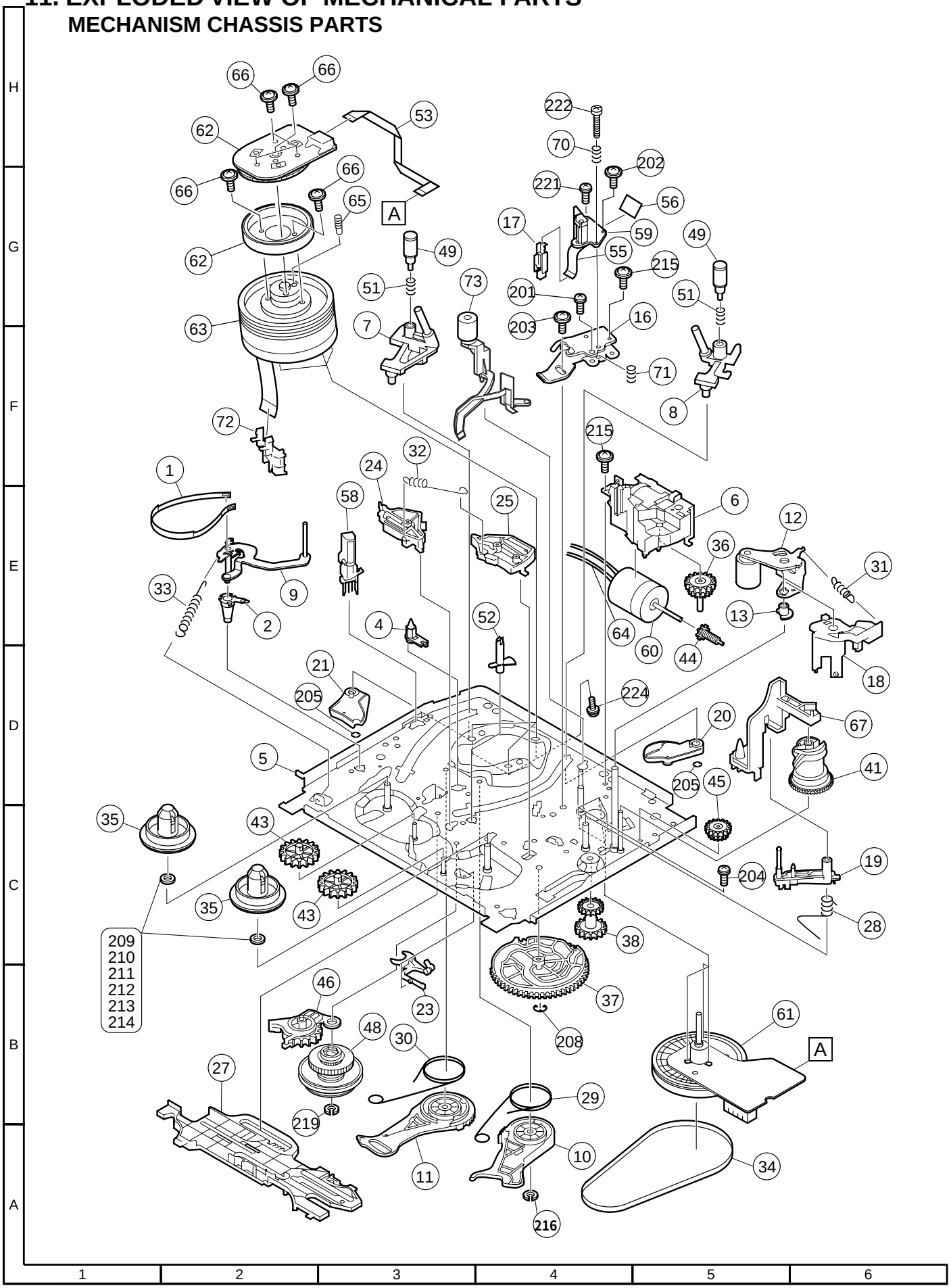
• How to remove
Turn the H-AHC ass'y in the direction of (2), lifting the hook of the H-AHC ass'y in the direction of (1). When the hook is undone, pull out the H-AHC ass'y in the direction of (3).
• How to install
Insert the H-AHC ass'y into the hole on the chassis in the direction of (4) and turn it in the direction of (5). Check that the chassis hook and hook of the H-AHC ass'y are engaged.

* Caution when replacing
• Do not allow the AHC ass'y to contact with the drum.
• Do not contaminate the cleaner section of the AHC ass'y with grease, etc.

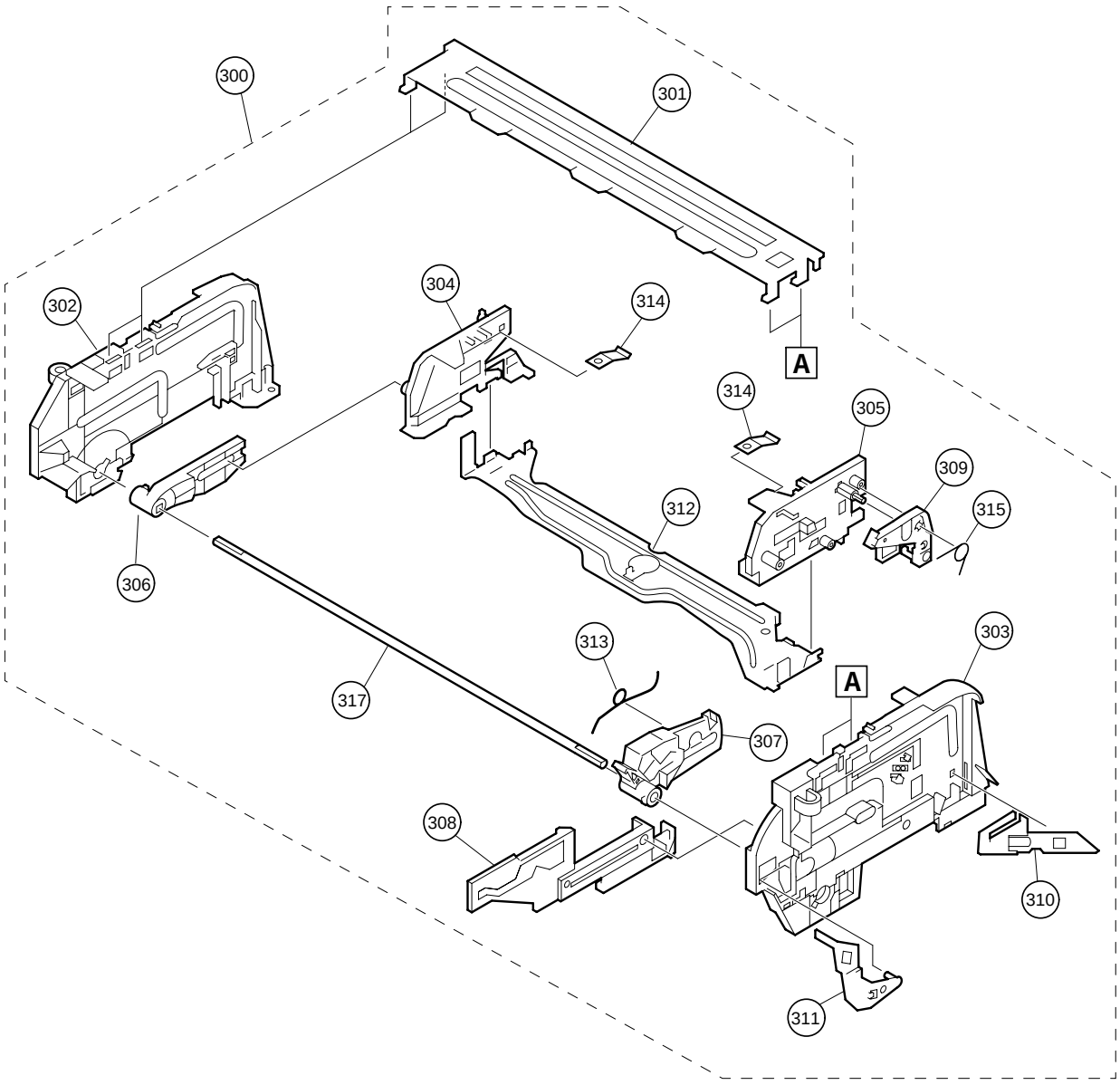
Ref. No.	Part No.	★	Description	Code
			CABINET PARTS	
600	GCABA3169AJSM	V	Top Cabinet	AN
601	GCABB1253AJKB	V	Main Frame	AN
602	GCOVA2213AJKZ	V	Antenna Terminal Cover (VC-H965U)	AD
602	GCOVA2223AJKZ	V	Antenna Terminal Cover (VC-A565U)	AD
603	XHPSD30P06WS0	V	Screw	AA
604	LANGK0261AJFW	V	Top Cabinet Fix Angle	AC
605	XEPSD30P14XS0	V	Screw	AB
606	LX-HZ3047GEFF	J	Screw	AA
607	XEBSD30P12000	V	Screw	AA
608	LX-HZ3087GEFN	J	Screw	AB
609	LHLDZ2184AJZZ	V	Sensor LED Cover	AC
610	PGUMS0026AJZZ	V	Foot Cushion	AB
611	TLABM4608AJZZ	V	Model Label(VC-H965U)	
611	TLABM4609AJZZ	V	Model Label(VC-A565U)	AD
612	XHPSD26P06WS0	V	Screw	AA
613	PSLDM4594AJFW	V	H/A Shield	
			FRONT PANEL PARTS	
500	CPNLC2998TEV1	V	Front Panel Ass'y (VC-A565U)	AQ
500	CPNLC2999TEV1	V	Front Panel Ass'y (VC-H965U)	
500-1	————	-	Front Panel (Not Replacement Item)	—
500-3	HDECQ2469AJSA	V	Cassette Flap (VC-H965U)	
500-3	HDECQ2471AJSA	V	Cassette Flap (VC-A565U)	AE
500-4	HDECQ2470AJSA	V	Window Dec.	AE
500-6	HiNDP2237AJSA	V	Timer LED Indicator	AD
500-7	MSPRD0105AJFJ	V	Cassette Spring	
500-11	GCOVA2214AJZZ	V	R/C Cover	AC
501	JBTN-3159AJSB	V	Button, PLAY/STOP	AC
502	JBTN-3162AJSB	V	Button, FF/REW	AC
			SUPPLIED ACCESSORIES	
			ACCESSORIES	
	QCNW-8614AJZZ	V	75 ohm Coaxial Cable	AF
	RRMCG1237AJSB	V	Infrared Remote Control Unit	AU
	TiNS-4085AJZZ	V	Instruction Book	AF
			PACKING PARTS ***(NOT REPLACEMENT ITEM)***	
	SPAKC4989AJZZ	-	Packing Case(VC-H965U)	—
	SPAKC4990AJZZ	-	Packing Case(VC-A565U)	—
	SPAKX1152AJZZ	-	Packing Foam.	—
	TLABV0182AJZZ	-	Bar Code Label	—
	SPAKAA012WJZZ	-	Packing Cushion	—
	SPAKP0114AJZZ	-	Foam Bag	—

11. EXPLODED VIEW OF MECHANICAL PARTS

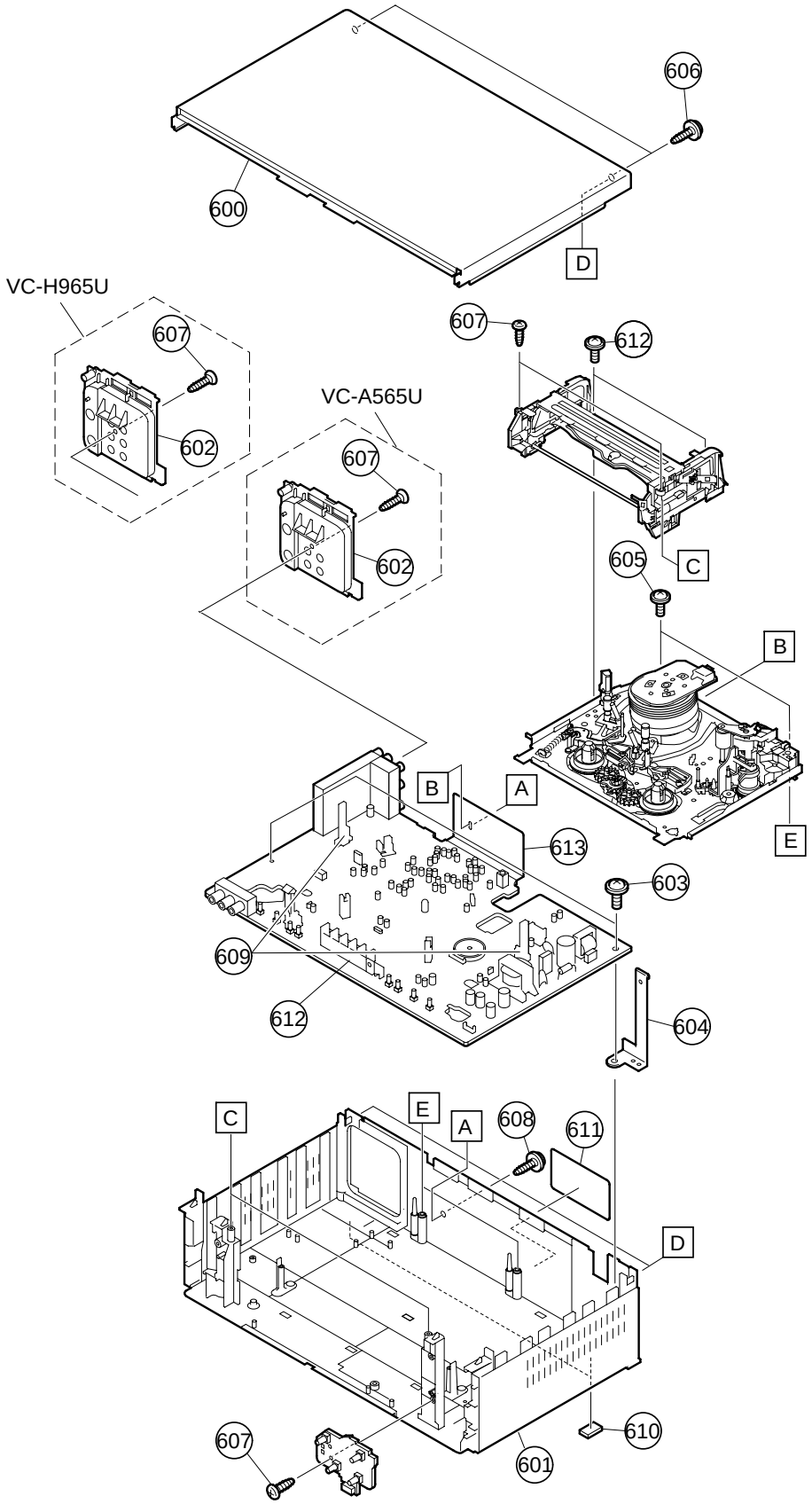
MECHANISM CHASSIS PARTS



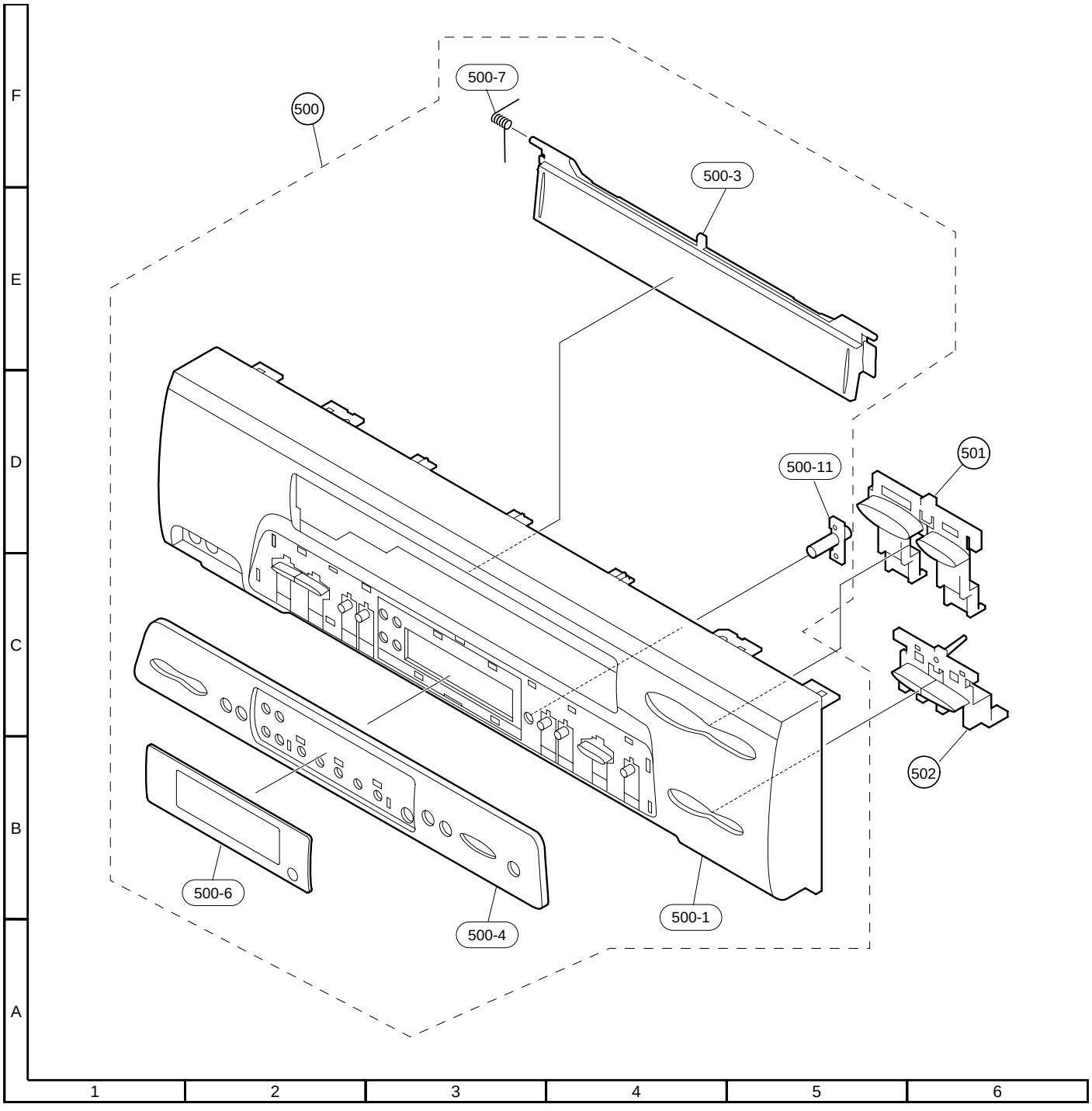
CASSETTE HOUSING CONTROL PARTS



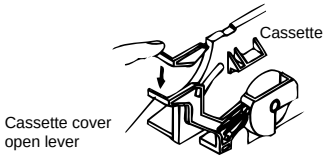
CABINET PARTS



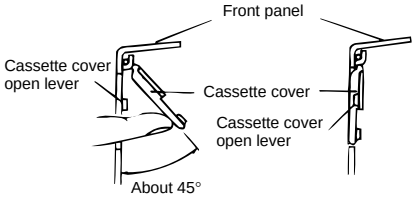
FRONT PANEL PARTS(VC-A565U)



PRECAUTION ON FRONT PANEL SET-UP

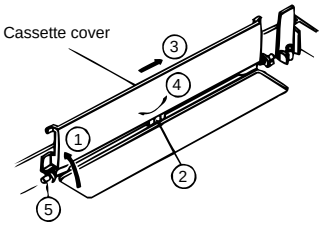


Before attaching the front panel in position, make sure that the cassette cover open lever is in its right place (lower-most). If it is out of position, push it down with a finger.



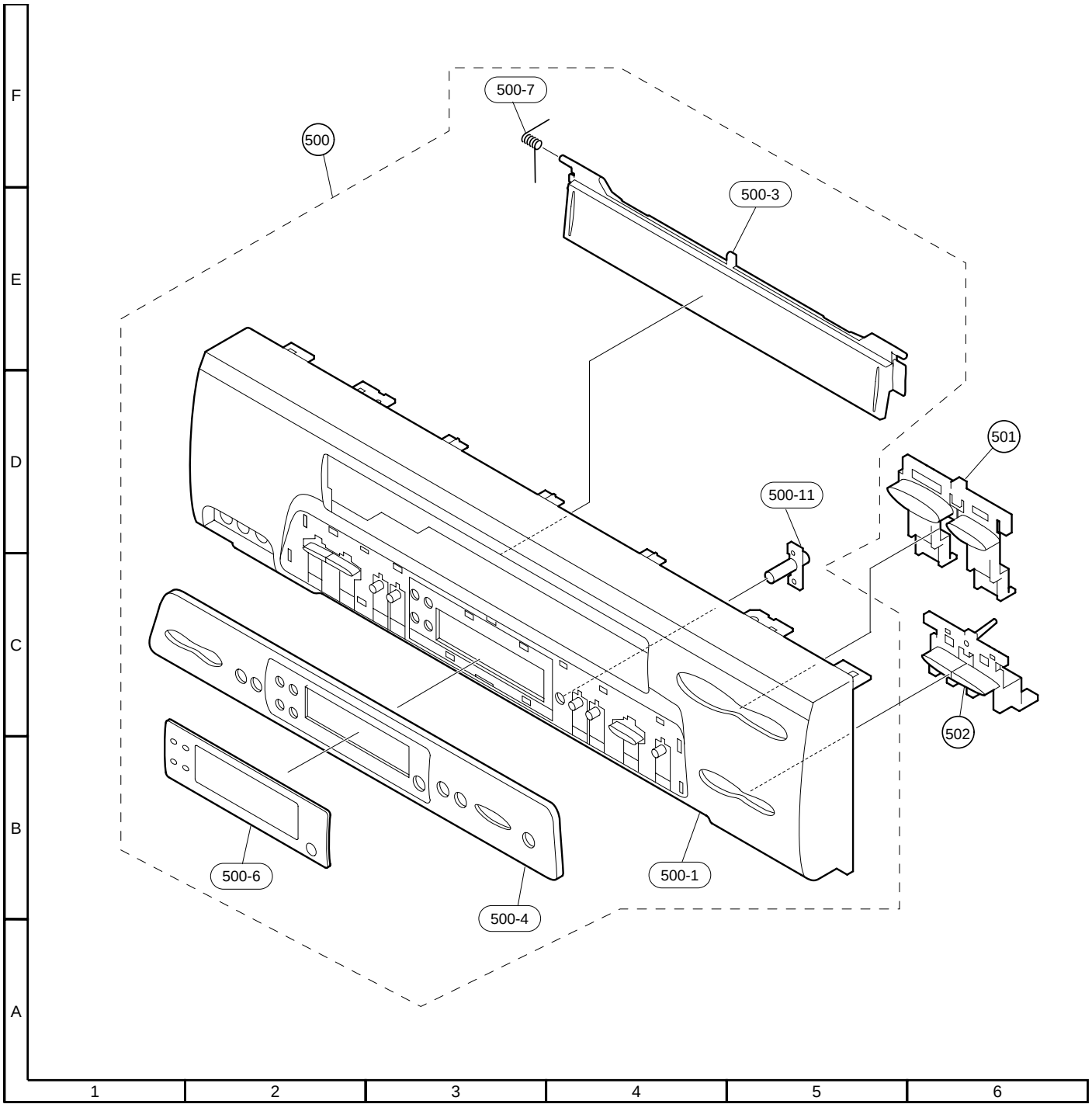
Keep the cassette over about 45° open and make sure that the cassette cover open lever is between the front panel and the cassette cover. Now fix the front panel in place.

Do not mount the front panel with the cassette cover tilted too open. Otherwise the cassette cover might wrongly run on the cassette housing.

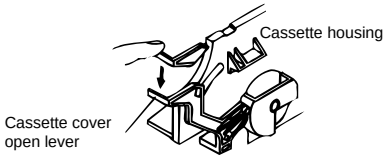


Removing the cassette compartment cover.
① Open the cassette compartment cover fully.
② Remove the center positioner.
③ Slide the cover to the right.
④ Slightly bend the cover.
⑤ Draw out the left-side rod.

FRONT PANEL PARTS(VC-H965U)



PRECAUTION ON FRONT PANEL SET-UP



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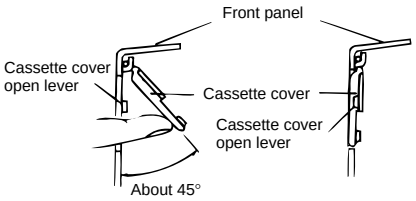

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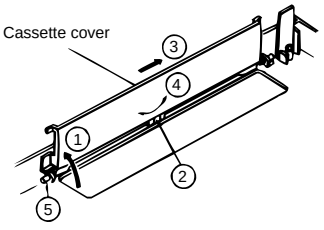
Do not mount the front panel with the cassette cover tilted too open. Otherwise the cassette cover might wrongly run on the cassette housing.

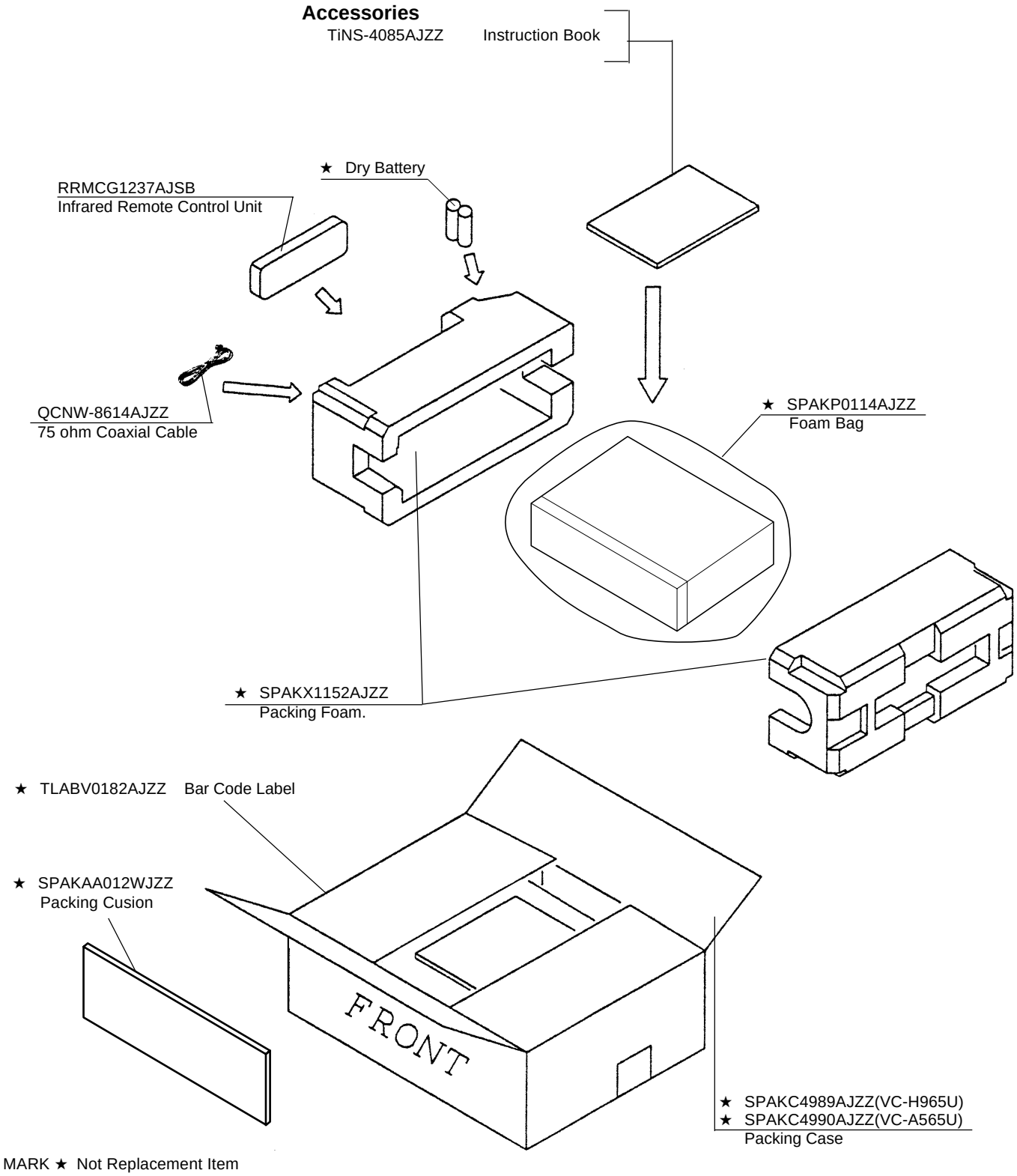


Removing the cassette compartment cover.
① Open the cassette compartment cover fully.
② Remove the center positioner.
③ Slide the cover to the right.
④ Slightly bend the cover.
⑤ Draw out the left-side rod.

12. PACKING OF THE SET

■ Setting position of the Knobs

RF conv. CH. preset	at "3" channel



MARK ★ Not Replacement Item

SHARP

Ⓓ Ⓟ TQ -S
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NA. DS

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Quality & Reliability Control Center
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